

**BOSCH INJ. PUMP TEST SPECIFICATIONS**

**Note remarks**

Refer to Service Info for test and adjustment instructions.  
See microcard(s) W400/...

Edition : 14.12.94  
Test oil : ISO 4113

Combination No. : 0402648933

Injection pump  
Pump designation : PE8P120A320LS7847-3  
EP type number : 0412628886

Governor  
Governor design. : RQ300/950PA1031-14  
Governor no. : 0421801720

Cust. part No. : 0230742702

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Customer-spec. information  
Customer : MB-NFZ  
Motor : OM402 LA  
Power KW : 280.0

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**TEST BENCH REQUIREMENTS**

Test oil inlet  
temp. °C : 40  
Tolerance °C : ± 2.0

Overflow valve : 1417413025

Inlet press. bar : 1.5  
Tolerance bar : ± 0.1

Tolerance l/h : ± 10.0

Test nozzle holder  
assembly : 1688901105

Opening pressure  
bar : 208.5  
Tolerance bar : ± 1.5

Lube oil : 1409918004

Test Lines : 1680750075

Outside diameter : 8.0

x inside diameter : 3.0

x length mm : 1000

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**REMARKS**

(A) INJECTION PUMP SETTING VALUES  
Set equal delivery quant.  
per values \_\_\_\_\_

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**BEGINNING OF DELIVERY**

Test pressure bar : 31.0  
Tolerance bar : ± 1.0

Prestroke mm : 5.55  
Tolerance mm : ± 0.05

test only : ± 0.10

Rack travel in mm : 20.50  
Tolerance mm : ± 0.50

Firing order : 8- 7- 2- 6- 3  
                  : - 5- 4- 1

Phasing : 0-45-90-135-180  
          : -225-270-315  
Tolerance : ± 0.30  
Check  
tolerance °NW : ± 0.75

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**BEGINNING OF DELIVERY DIFFERENCE**

Time to cyl. no. : 8

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**BASIC SETTING**

Rated speed rpm : 550

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Rack travel in mm : 14.80  
Tolerance mm : ± 0.05

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Del. quantity  
cm<sup>3</sup>/1000 strokes : 239.0

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Tolerance  
cm<sup>3</sup>/1000 strokes : ± 1.0

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Check tolerance  
cm<sup>3</sup>/1000S. : ± 4.0

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Spreed  
Tolerance  
cm<sup>3</sup>/1000 strokes : 6.0

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Check tolerance  
cm<sup>3</sup>/1000S. : 9.0

2nd speed rpm : 300

Rack travel in mm : 5.70  
Tolerance mm : ± 0.30

Del. quantity  
cm<sup>3</sup>/1000 strokes : 13.0  
Tolerance  
cm<sup>3</sup>/1000 strokes : ± 3.0

Check tolerance  
cm<sup>3</sup>/1000S. : ± 6.0

Spreed  
Tolerance  
cm<sup>3</sup>/1000 strokes : 6.0

Check tolerance  
cm<sup>3</sup>/1000S. : 10.0

(B) SETTING OF INJECTION PUMP  
WITH GOVERNOR

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GUIDE SLEEVE TRAVEL

Rated speed rpm : 300  
guide sleeve  
travel mm : 1.62  
Tolerance mm : ± 0.10

Rated speed rpm : 1009  
guide sleeve  
travel mm : 6.84  
Tolerance mm : ± 0.10

Rated speed rpm : 950  
guide sleeve  
travel mm : 6.50  
Tolerance mm : ± 0.10

Rated speed rpm : 739

guide sleeve  
travel mm : 6.13  
Tolerance mm : ± 0.10

Rated speed rpm : 443  
guide sleeve  
travel mm : 4.35  
Tolerance mm : ± 0.10

Rated speed rpm : 550  
guide sleeve  
travel mm : 6.00  
Tolerance mm : ± 0.10

Rated speed rpm : 1160  
guide sleeve  
travel mm : 11.50  
Tolerance mm : ± 0.50

Rated speed rpm : 835  
guide sleeve  
travel mm : 6.38  
Tolerance mm : ± 0.10

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GUIDE SLEEVE POSITION

Rated speed rpm : 600

Rack travel in mm : 20.00  
Tolerance mm : ± 0.80

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FULL LOAD DELIVERY AT FULL LOAD STOP

Rated speed rpm : 550  
Aneroid pressure  
hPa : 1200  
Del. quantity  
cm<sup>3</sup>/1000 strokes : 239.0  
Tolerance  
cm<sup>3</sup>/1000 strokes : ± 1.0  
Check tolerance  
cm<sup>3</sup>/1000S. : ± 4.0  
Spreed  
Tolerance  
cm<sup>3</sup>/1000 strokes : 6.0  
Check tolerance  
cm<sup>3</sup>/1000S. : 9.0

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RATED SPEED

control lever  
position degree : 97.0  
tolerance degree : ± 4.0

rack travel mm : 13.00  
Rated speed rpm : 998

Tolerance 1/min : +- 8  
 rack travel mm : 4.00  
 Rated speed rpm : 1085  
 Tolerance 1/min : +- 15  
 rack travel mm : 0.75  
 Tolerance mm : +- 0.75  
 Rated speed rpm : 1350

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LOW IDLE

control lever  
 position degree : 70.0  
 tolerance degree : +- 4.0

Testing:

Rated speed rpm : 300  
 rack travel mm : 3.50  
 Tolerance mm : +- 0.10

rack travel mm : 2.00  
 Rated speed rpm : 350  
 Tolerance 1/min : +- 20

Rated speed rpm : 200

CRT mm min. : > 5.50

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TORQUE CONTROL

Rated speed rpm : 550  
 rack travel mm : 14.80  
 Tolerance mm : +- 0.05

Rated speed rpm : 950  
 rack travel mm : 14.00  
 Tolerance mm : +- 0.10

Rated speed rpm : 900  
 rack travel mm : 14.10  
 Tolerance mm : +- 0.10

Rated speed rpm : 875  
 rack travel mm : 14.25  
 Tolerance mm : +- 0.10

Rated speed rpm : 800  
 rack travel mm : 14.75  
 Tolerance mm : +- 0.10

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ANEROID/ALTITUDE  
 COMPENSATOR TEST

SETTING

Rated speed rpm : 400  
 Pressure hPa : 1200  
 rack travel mm : 14.80  
 Tolerance mm : +- 0.05

MEASUREMENT

Pressure hPa : -  
 Rated speed rpm : 400  
 rack travel mm : 10.60  
 Tolerance mm : +- 0.20

Rated speed rpm : 400

Pressure hPa : 300  
 rack travel mm : 11.90  
 Tolerance mm : +- 0.15

Pressure hPa : 450  
 rack travel mm : 12.90  
 Tolerance mm : +- 0.10

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START CUT-OUT

Rated speed rpm : > 100  
 Check  
 speed 1/min : > 80  
 Rated speed rpm : < 220  
 Check  
 speed 1/min : < 240

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FUEL DELIVERY CHARACTERISTICS

Aneroid pressure  
 hPa : 1200  
 Rated speed rpm : 950  
 Del. quantity  
 cm<sup>3</sup>/1000 strokes : 214.0  
 Tolerance  
 cm<sup>3</sup>/1000 strokes : +- 2.0  
 Check tolerance  
 cm<sup>3</sup>/1000S. : +- 5.0

Speed  
 Tolerance  
 cm<sup>3</sup>/1000 strokes : 8.0  
 Check tolerance  
 cm<sup>3</sup>/1000S. : 12.0

Aneroid pressure  
 hPa : -  
 Rated speed rpm : 400  
 Del. quantity  
 cm<sup>3</sup>/1000 strokes : 107.0  
 Tolerance  
 cm<sup>3</sup>/1000 strokes : +- 1.0

Check tolerance  
cm<sup>3</sup>/1000S. : +- 4.0  
Spreed  
Tolerance  
cm<sup>3</sup>/1000 strokes : 8.0  
Check tolerance  
cm<sup>3</sup>/1000S. : 12.0

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#### BREAKAWAY

Rack travel in mm : 13.00  
Rated speed rpm : 998  
Tolerance 1/min : +- 8

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#### STARTING FUEL DELIVERY

Rated speed rpm : 100  
Del. quantity  
cm<sup>3</sup>/1000 strokes : 210.0  
Tolerance  
cm<sup>3</sup>/1000 strokes : +- 15.0  
Check tolerance  
cm<sup>3</sup>/1000S. : +- 19.0

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#### LOW IDLE

Rated speed rpm : 300  
rack travel mm : 5.70  
Tolerance mm : +- 0.30  
Del. quantity  
cm<sup>3</sup>/1000 strokes : 13.0  
Tolerance  
cm<sup>3</sup>/1000 strokes : +- 3.0  
Check tolerance  
cm<sup>3</sup>/1000S. : +- 6.0  
Spreed  
Tolerance  
cm<sup>3</sup>/1000 strokes : 6.0  
Check tolerance  
cm<sup>3</sup>/1000S. : 10.0



BOSCH INJ. PUMP TEST SPECIFICATIONS

Note remarks

Refer to Service Info for test and adjustment instructions.  
See microcard(s) W400/...

Edition : 16.06.94  
Test oil : ISO 4113  
  
Combination No. : 0402648938  
  
Injection pump  
Pump designation : PE8P120A320LS7840  
: -10  
EP type number : 0412628856  
  
Governor  
Governor design. : RQ300/1050PA1030-15  
Governor no. : 0421801736

Cust. part No. : 0230743602

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Customer-spec. information  
Customer : MB-NFZ  
Motor : OM442 A  
Power KW : 250.0

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TEST BENCH REQUIREMENTS

Test oil inlet  
temp. °C : 40  
Tolerance °C : ± 2.0  
  
Overflow valve : 1417413025  
  
Inlet press. bar : 1.5  
Tolerance bar : ± 0.1  
  
Test nozzle holder  
assembly : 1688901105  
  
Opening pressure  
bar : 208.5  
Tolerance bar : ± 1.5  
  
Lube oil : 1409918004  
  
Test lines : 1680750075

A05

Outside diameter : 8.0  
x inside diameter : 3.0  
x length mm : 1000

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REMARKS

(A) INJECTION PUMP SETTING VALUES  
Set equal delivery quant.  
per values \_\_\_\_\_

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BEGINNING OF DELIVERY

Test pressure bar : 31.0  
Tolerance bar : ± 1.0  
  
Prestroke mm : 5.25  
Tolerance mm : ± 0.05  
  
test only : ± 0.10  
  
Rack travel in mm : 20.50  
Tolerance mm : ± 0.50  
  
Firing order : 8- 7- 2- 6- 3  
: - 5- 4- 1  
  
Phasing : 0-45-90-135-180  
: -225-270-315  
Tolerance : ± 0.30  
Check  
tolerance °NW : ± 0.75

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BEGINNING OF DELIVERY DIFFERENCE

Time to cyl. no. : 8

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BASIC SETTING

Rated speed rpm : 700  
  
Rack travel in mm : 13.45  
Tolerance mm : ± 0.05

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Del. quantity cm <sup>3</sup> /1000 strokes	: 212.0
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Tolerance cm <sup>3</sup> /1000 strokes	: ± 1.0
<hr/>	
Check tolerance cm <sup>3</sup> /1000S.	: ± 4.0
<hr/>	
Spread Tolerance cm <sup>3</sup> /1000 strokes	: 6.0
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Check tolerance cm <sup>3</sup> /1000S.	: 9.0
2nd speed rpm	: 300
Rack travel in mm	: 6.50
Tolerance mm	: ± 0.30
Del. quantity cm <sup>3</sup> /1000 strokes	: 13.0
Tolerance cm <sup>3</sup> /1000 strokes	: ± 3.0
Check tolerance cm <sup>3</sup> /1000S.	: ± 6.0
Spread Tolerance cm <sup>3</sup> /1000 strokes	: 8.0
Check tolerance cm <sup>3</sup> /1000S.	: 12.0

(B) SETTING OF INJECTION PUMP  
WITH GOVERNOR

GUIDE SLEEVE TRAVEL

Rated speed rpm guide sleeve travel mm	: 300
Tolerance mm	: ± 0.10
Rated speed rpm guide sleeve travel mm	: 1103
Tolerance mm	: ± 0.10
Rated speed rpm guide sleeve travel mm	: 1050
Tolerance mm	: ± 0.10
Rated speed rpm guide sleeve travel mm	: 811
Tolerance mm	: ± 0.10
Rated speed rpm	: 411

guide sleeve travel mm	: 4.46
Tolerance mm	: ± 0.10
Rated speed rpm guide sleeve travel mm	: 510
Tolerance mm	: ± 0.10
Rated speed rpm guide sleeve travel mm	: 1270
Tolerance mm	: ± 0.50
Rated speed rpm guide sleeve travel mm	: 873
Tolerance mm	: ± 0.10

GUIDE SLEEVE POSITION

Rated speed rpm	: 600
Rack travel in mm	: 20.00
Tolerance mm	: ± 0.80

FULL LOAD DELIVERY AT FULL LOAD STOP

Rated speed rpm	: 700
Aneroid pressure hPa	: 750
Del. quantity cm <sup>3</sup> /1000 strokes	: 212.0
Tolerance cm <sup>3</sup> /1000 strokes	: ± 1.0
Check tolerance cm <sup>3</sup> /1000S.	: ± 4.0
Spread Tolerance cm <sup>3</sup> /1000 strokes	: 6.0
Check tolerance cm <sup>3</sup> /1000S.	: 9.0

RATED SPEED

control lever position degree	: 102.0
tolerance degree	: ± 4.0
rack travel mm	: 11.80
Rated speed rpm	: 1098
Tolerance 1/min	: ± 8
rack travel mm	: 4.00
Rated speed rpm	: 1185
Tolerance 1/min	: ± 15

rack travel mm : 0.50  
Tolerance mm : + 0.50  
Rated speed rpm : 1300

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LOW IDLE

control lever  
position degree : 77.0  
tolerance degree : + 4.0

Testing:

Rated speed rpm : 300  
rack travel mm : 6.50  
Tolerance mm : + 0.10

rack travel mm : 2.00  
Rated speed rpm : 400  
Tolerance 1/min : + 20

Rated speed rpm : 200

CRT mm min. : > 8.80

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TORQUE CONTROL

Rated speed rpm : 700  
rack travel mm : 13.45  
Tolerance mm : + 0.05

Rated speed rpm : 1050  
rack travel mm : 12.80  
Tolerance mm : + 0.10

Rated speed rpm : 900  
rack travel mm : 13.00  
Tolerance mm : + 0.05

Rated speed rpm : 800  
rack travel mm : 13.45  
Tolerance mm : + 0.05

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ANEROID/ALTITUDE  
COMPENSATOR TEST

SETTING

Rated speed rpm : 400  
Pressure hPa : 750  
rack travel mm : 13.45  
Tolerance mm : + 0.05

MEASUREMENT

Pressure hPa : -  
Rated speed rpm : 400  
rack travel mm : 11.15  
Tolerance mm : + 0.15

Rated speed rpm : 400

Pressure hPa : 200  
rack travel mm : 11.60  
Tolerance mm : + 0.10

Pressure hPa : 400  
rack travel mm : 12.40  
Tolerance mm : + 0.10

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START CUT-OUT

Rated speed rpm : > 100

Check  
speed 1/min : > 80

Rated speed rpm : < 220

Check  
speed 1/min : < 240

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FUEL DELIVERY CHARACTERISTICS

Aneroid pressure  
hPa : 750  
Rated speed rpm : 1050  
Del. quantity  
cm<sup>3</sup>/1000 strokes : 194.0

Tolerance  
cm<sup>3</sup>/1000 strokes : + 2.0  
Check tolerance  
cm<sup>3</sup>/1000S. : + 5.0

Speed  
Tolerance  
cm<sup>3</sup>/1000 strokes : 8.0  
Check tolerance  
cm<sup>3</sup>/1000S. : 12.0

Aneroid pressure  
hPa : -  
Rated speed rpm : 500  
Del. quantity  
cm<sup>3</sup>/1000 strokes : 137.0  
Tolerance  
cm<sup>3</sup>/1000 strokes : + 1.0  
Check tolerance  
cm<sup>3</sup>/1000S. : + 4.0

Speed  
Tolerance  
cm<sup>3</sup>/1000 strokes : 8.0  
Check tolerance  
cm<sup>3</sup>/1000S. : 12.0

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BREAKAWAY

Rack travel in mm : 11.80  
Rated speed rpm : 1098  
Tolerance 1/min : ± 8

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STARTING FUEL DELIVERY

Rated speed rpm : 100  
Del. quantity  
cm<sup>3</sup>/1000 strokes : 200.0  
Tolerance  
cm<sup>3</sup>/1000 strokes : ± 10.0  
Check tolerance  
cm<sup>3</sup>/1000S. : ± 14.0

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LOW IDLE

Rated speed rpm : 300  
rack travel mm : 6.50  
Tolerance mm : ± 0.30  
Del. quantity  
cm<sup>3</sup>/1000 strokes : 13.0  
Tolerance  
cm<sup>3</sup>/1000 strokes : ± 3.0  
Check tolerance  
cm<sup>3</sup>/1000S. : ± 6.0  
Spreed  
Tolerance  
cm<sup>3</sup>/1000 strokes : 8.0  
Check tolerance  
cm<sup>3</sup>/1000S. : 12.0

BOSCH INJ. PUMP TEST SPECIFICATIONS

Note remarks

Refer to Service Info for test and adjustment instructions.  
See microcard(s) W400/...

Edition : 01.08.94  
Test oil : ISO 4113  
Combination No. : 0402648945B  
Injection pump  
Pump designation : PE8P120A320LS7847-3  
EP type number : 0412628886  
Governor  
Governor design. : RQ300/1050PA1030-10  
Governor no. : 0421801718

Cust. part No. : 0230747802

Customer-spec. information  
Customer : MB-NFZ  
Motor : OM402 LA  
Power KW : 280.0

TEST BENCH REQUIREMENTS

Test oil inlet temp. °C : 40  
Tolerance °C : ± 2.0

Overflow valve : 1417413025

Inlet press. bar : 1.5  
Tolerance bar : ± 0.1

Tolerance l/h : ± 10.0

Test nozzle holder assembly : 1688901105

Opening pressure bar : 208.5  
Tolerance bar : ± 1.5

Lube oil : 1409918004

Test lines : 1680750075

Outside diameter : 8.0

x inside diameter : 3.0  
x length mm : 1000

REMARKS

(A) INJECTION PUMP SETTING VALUES  
Set equal delivery quant.  
per values \_\_\_\_\_

BEGINNING OF DELIVERY

Test pressure bar : 31.0  
Tolerance bar : ± 1.0

Prestroke mm : 5.55  
Tolerance mm : ± 0.05

test only : ± 0.10

Rack travel in mm : 20.50  
Tolerance mm : ± 0.50

Firing order : 8- 7- 2- 6- 3  
                  : - 5- 4- 1

Phasing : 0-45-90-135-180  
          : -225-270-315

Tolerance : ± 0.30  
Check tolerance °NW : ± 0.75

BEGINNING OF DELIVERY DIFFERENCE

Time to cyl. no. : 8

BASIC SETTING

Rated speed rpm : 550

Rack travel in mm	:	14.40
Tolerance mm	:	+ 0.05
<hr/>		
Del. quantity cm <sup>3</sup> /1000 strokes	:	226.0
<hr/>		
Tolerance cm <sup>3</sup> /1000 strokes	:	+ 1.0
<hr/>		
Check tolerance cm <sup>3</sup> /1000S.	:	+ 4.0
<hr/>		
Spreed Tolerance cm <sup>3</sup> /1000 strokes	:	6.0
<hr/>		
Check tolerance cm <sup>3</sup> /1000S.	:	9.0
<hr/>		
2nd speed rpm	:	300
<hr/>		
Rack travel in mm	:	5.70
Tolerance mm	:	+ 0.30
Del. quantity cm <sup>3</sup> /1000 strokes	:	13.0
Tolerance cm <sup>3</sup> /1000 strokes	:	+ 3.0
Check tolerance cm <sup>3</sup> /1000S.	:	+ 6.0
<hr/>		
Spreed Tolerance cm <sup>3</sup> /1000 strokes	:	6.0
Check tolerance cm <sup>3</sup> /1000S.	:	10.0

(B) SETTING OF INJECTION PUMP  
WITH GOVERNOR

GUIDE SLEEVE TRAVEL

Rated speed rpm	:	300
guide sleeve travel mm	:	1.79
Tolerance mm	:	+ 0.10
<hr/>		
Rated speed rpm	:	1104
guide sleeve travel mm	:	6.65
Tolerance mm	:	+ 0.10
<hr/>		
Rated speed rpm	:	1050
guide sleeve travel mm	:	6.30
Tolerance mm	:	+ 0.10
<hr/>		
Rated speed rpm	:	792

guide sleeve travel mm	:	6.08
Tolerance mm	:	+ 0.10
<hr/>		
Rated speed rpm	:	414
guide sleeve travel mm	:	3.88
Tolerance mm	:	+ 0.10
<hr/>		
Rated speed rpm	:	550
guide sleeve travel mm	:	6.00
Tolerance mm	:	+ 0.10
<hr/>		
Rated speed rpm	:	1270
guide sleeve travel mm	:	11.50
Tolerance mm	:	+ 0.50
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Rated speed rpm	:	847
guide sleeve travel mm	:	6.23
Tolerance mm	:	+ 0.10

GUIDE SLEEVE POSITION

Rated speed rpm	:	600
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Rack travel in mm	:	20.00
Tolerance mm	:	+ 0.80

FULL LOAD DELIVERY AT FULL LOAD STOP

Rated speed rpm	:	550
Aneroid pressure hPa	:	1200
Del. quantity cm <sup>3</sup> /1000 strokes	:	226.0
Tolerance cm <sup>3</sup> /1000 strokes	:	+ 1.0
Check tolerance cm <sup>3</sup> /1000S.	:	+ 4.0
<hr/>		
Spreed Tolerance cm <sup>3</sup> /1000 strokes	:	6.0
Check tolerance cm <sup>3</sup> /1000S.	:	9.0

RATED SPEED

control lever position degree	:	99.0
tolerance degree	:	+ 4.0
<hr/>		
rack travel mm	:	13.00
Rated speed rpm	:	1098

Tolerance 1/min : + 8  
 rack travel mm : 4.00  
 Rated speed rpm : 1190  
 Tolerance 1/min : + 15  
 rack travel mm : 0.70  
 Tolerance mm : + 0.70  
 Rated speed rpm : 1300

LOW IDLE

control lever  
 position degree : 72.0  
 tolerance degree : + 4.0

Testing:

Rated speed rpm : 300  
 rack travel mm : 5.50  
 Tolerance mm : + 0.10

rack travel mm : 2.00  
 Rated speed rpm : 405  
 Tolerance 1/min : + 20

Rated speed rpm : 200

CRT mm min. : > 7.10

TORQUE CONTROL

Rated speed rpm : 550  
 rack travel mm : 14.40  
 Tolerance mm : + 0.05

Rated speed rpm : 1050  
 rack travel mm : 14.05  
 Tolerance mm : + 0.10

Rated speed rpm : 950  
 rack travel mm : 14.20  
 Tolerance mm : + 0.10

Rated speed rpm : 800  
 rack travel mm : 14.40  
 Tolerance mm : + 0.05

ANEROID/ALTITUDE  
 COMPENSATOR TEST

SETTING

Rated speed rpm : 400  
 Pressure hPa : 1200

rack travel mm : 14.40  
 Tolerance mm : + 0.05

MEASUREMENT

Pressure hPa : -  
 Rated speed rpm : 400  
 rack travel mm : 10.60  
 Tolerance mm : + 0.15

Rated speed rpm : 400

Pressure hPa : 450  
 rack travel mm : 12.90  
 Tolerance mm : + 0.10

Pressure hPa : 300  
 rack travel mm : 11.90  
 Tolerance mm : + 0.15

FUEL DELIVERY CHARACTERISTICS

Aneroid pressure  
 hPa : 1200  
 Rated speed rpm : 1050  
 Del. quantity  
 cm<sup>3</sup>/1000 strokes : 212.0  
 Tolerance  
 cm<sup>3</sup>/1000 strokes : + 2.0  
 Check tolerance  
 cm<sup>3</sup>/1000S. : + 5.0

Speed  
 Tolerance  
 cm<sup>3</sup>/1000 strokes : 8.0  
 Check tolerance  
 cm<sup>3</sup>/1000S. : 12.0

Aneroid pressure  
 hPa : -  
 Rated speed rpm : 400  
 Del. quantity  
 cm<sup>3</sup>/1000 strokes : 107.0  
 Tolerance  
 cm<sup>3</sup>/1000 strokes : + 1.0  
 Check tolerance  
 cm<sup>3</sup>/1000S. : + 4.0

Speed  
 Tolerance  
 cm<sup>3</sup>/1000 strokes : 8.0  
 Check tolerance  
 cm<sup>3</sup>/1000S. : 12.0

BREAKAWAY

Rack travel in mm : 13.00  
 Rated speed rpm : 1098

Tolerance 1/min : ± 8

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STARTING FUEL DELIVERY

Rated speed rpm : 100  
rack travel mm : 10.60  
Tolerance mm : ± 0.50  
Del. quantity  
cm<sup>3</sup>/1000 strokes : 60.0  
Tolerance  
cm<sup>3</sup>/1000 strokes : ± 10.0  
Check tolerance  
cm<sup>3</sup>/1000S. : ± 14.0

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LOW IDLE

Rated speed rpm : 300  
rack travel mm : 5.70  
Tolerance mm : ± 0.30  
Del. quantity  
cm<sup>3</sup>/1000 strokes : 13.0  
Tolerance  
cm<sup>3</sup>/1000 strokes : ± 3.0  
Check tolerance  
cm<sup>3</sup>/1000S. : ± 6.0  
Spreed  
Tolerance  
cm<sup>3</sup>/1000 strokes : 6.0  
Check tolerance  
cm<sup>3</sup>/1000S. : 10.0



BOSCH INJ. PUMP TEST SPECIFICATIONS

Note remarks

Refer to Service Info for test and adjustment instructions.  
See microcard(s) W400/...

Edition : 17.11.94  
Test oil : ISO 4113  
Combination No. : 0402648979  
Injection pump  
Pump designation : PE8P120A920/4LS7358  
EP type number : 0412628899  
Governor  
Governor design. : RQV350...1100PA795  
                  : -21  
Governor no. : 0421814079  
Cust. part No. : 1367403

Customer-spec. information  
Customer : SCANIA  
Motor : DSI14 67/68M

TEST BENCH REQUIREMENTS

Test oil inlet  
temp. °C : 40  
Tolerance °C : ± 2.0  
Overflow valve : 1417413025  
Inlet press. bar : 2.5  
Tolerance bar : ± 0.1  
Tolerance l/h : ± 20.0  
Test nozzle holde  
assembly : 1688901104  
Opening pressure  
bar : 251.5  
Tolerance bar : ± 1.5  
Lube oil : 1409918004

Test Lines : 1680750008  
Outside diameter : 6.0  
x inside diameter : 2.0  
x length mm : 600

REMARKS

Check and set without ROBO diaphragm

(A) INJECTION PUMP SETTING VALUES  
Set equal delivery quant.  
per values \_\_\_\_\_

BEGINNING OF DELIVERY

Test pressure bar : 31.0  
Tolerance bar : ± 1.0  
Prestroke mm : 4.45  
Tolerance mm : ± 0.05  
test only : ± 0.10  
Rack travel in mm : 10.50  
Tolerance mm : ± 1.50  
Firing order : 1- 2- 7- 3- 4  
                  : - 5- 6- 8  
Phasing : 0-45-90-135-180  
          : -225-270-315  
Tolerance : ± 0.30  
Check  
tolerance °NW : ± 0.75

BEGINNING OF DELIVERY DIFFERENCE

Time to cyl. no. : 1

BASIC SETTING

Rated speed rpm : 700

Rack travel in mm : 14.95  
 Tolerance mm :  $\pm$  0.05

---

Del. quantity  
 cm<sup>3</sup>/1000 strokes : 283.0

---

Tolerance  
 cm<sup>3</sup>/1000 strokes :  $\pm$  1.0

---

Check tolerance  
 cm<sup>3</sup>/1000S. :  $\pm$  4.0

---

Speed  
 Tolerance  
 cm<sup>3</sup>/1000 strokes : 8.0

---

Check tolerance  
 cm<sup>3</sup>/1000S. : 12.0

(B) SETTING OF INJECTION PUMP  
 WITH GOVERNOR

GUIDE SLEEVE TRAVEL

Rated speed rpm : 350  
 guide sleeve  
 travel mm : 1.44  
 Tolerance mm :  $\pm$  0.25

Rated speed rpm : 1158  
 guide sleeve  
 travel mm : 7.87  
 Tolerance mm :  $\pm$  0.25

Rated speed rpm : 795  
 guide sleeve  
 travel mm : 5.12  
 Tolerance mm :  $\pm$  0.25

Rated speed rpm : 411  
 guide sleeve  
 travel mm : 2.06  
 Tolerance mm :  $\pm$  0.25

Rated speed rpm : 461  
 guide sleeve  
 travel mm : 2.64  
 Tolerance mm :  $\pm$  0.25

Rated speed rpm : 520  
 guide sleeve  
 travel mm : 3.19  
 Tolerance mm :  $\pm$  0.25

Rated speed rpm : 1480  
 guide sleeve  
 travel mm : 11.50

Tolerance mm :  $\pm$  0.50

GUIDE SLEEVE POSITION

control lever  
 position degree : - 1  
 Rated speed rpm : 1270

Rack travel in mm : 14.00  
 Tolerance mm :  $\pm$  1.30

FULL LOAD DELIVERY AT FULL LOAD STOP

Rated speed rpm : 700  
 Aneroid pressure  
 hPa : -  
 Del. quantity  
 cm<sup>3</sup>/1000 strokes : 283.0  
 Tolerance  
 cm<sup>3</sup>/1000 strokes :  $\pm$  1.0  
 Check tolerance  
 cm<sup>3</sup>/1000S. :  $\pm$  4.0  
 Speed  
 Tolerance  
 cm<sup>3</sup>/1000 strokes : 8.0  
 Check tolerance  
 cm<sup>3</sup>/1000S. : 12.0

RATED SPEED

control lever  
 position degree : 48.0  
 tolerance degree :  $\pm$  4.0

control lever  
 position degree : 105.0  
 tolerance degree :  $\pm$  4.0

rack travel mm : 13.90  
 Rated speed rpm : 1145  
 Tolerance 1/min :  $\pm$  5

rack travel mm : 4.00  
 Rated speed rpm : 1300  
 Tolerance 1/min :  $\pm$  15

rack travel mm : 0.50  
 Tolerance mm :  $\pm$  0.50  
 Rated speed rpm : 1400

LOW IDLE

control lever  
position degree : 73.0  
tolerance degree : ± 4.0

control lever  
position degree : 15.0  
tolerance degree : ± 4.0

Testing:

Rated speed rpm : 350  
rack travel mm : 5.80  
Tolerance mm : ± 0.30

Rated speed rpm : 250

CRT mm min. : > 8.90

---

CONTINUOUS-ACTION CONTROL

Rated speed rpm : 325

---

TORQUE CONTROL

Rated speed rpm : 1100  
rack travel mm : 14.95  
Tolerance mm : ± 0.05

---

ANEROID/ALTITUDE  
COMPENSATOR TEST

SETTING

Rated speed rpm : 500  
Pressure hPa : 1500  
rack travel mm : 14.95  
Tolerance mm : ± 0.05

MEASUREMENT

Pressure hPa : -  
Rated speed rpm : 500  
rack travel mm : 10.20  
Tolerance mm : ± 0.20

Rated speed rpm : 500

Pressure hPa : 450  
rack travel mm : 11.40  
Tolerance mm : ± 0.25

Pressure hPa : 860  
rack travel mm : 13.65  
Tolerance mm : ± 0.05

---

FUEL DELIVERY CHARACTERISTICS

Aneroid pressure  
hPa : -  
Rated speed rpm : 1100  
Del. quantity  
cm<sup>3</sup>/1000 strokes : 255.0  
Tolerance  
cm<sup>3</sup>/1000 strokes : ± 4.0  
Check tolerance  
cm<sup>3</sup>/1000S. : ± 6.0

Aneroid pressure  
hPa : -  
Rated speed rpm : 500  
Del. quantity  
cm<sup>3</sup>/1000 strokes : 143.0  
Tolerance  
cm<sup>3</sup>/1000 strokes : ± 1.0  
Check tolerance  
cm<sup>3</sup>/1000S. : ± 4.0

---

BREAKAWAY

Rack travel in mm : 13.90  
Rated speed rpm : 1145  
Tolerance 1/min : ± 5

---

STARTING FUEL DELIVERY

Rated speed rpm : 100  
rack travel mm : 10.20  
Tolerance mm : ± 0.20  
Del. quantity  
cm<sup>3</sup>/1000 strokes : 150.0  
Tolerance  
cm<sup>3</sup>/1000 strokes : ± 20.0  
Check tolerance  
cm<sup>3</sup>/1000S. : ± 24.0

BOSCH INJ. PUMP TEST SPECIFICATIONS

Note remarks

Refer to Service Info for test and adjustment instructions.  
See microcard(s) W400/...

Edition : 12.12.94  
Test oil : ISO 4113  
Combination No. : 0402648989  
Injection pump  
Pump designation : PE8P120A720LS7266-2  
EP type number : 0412628901  
Governor  
Governor design. : RQ750PA758-15  
Governor no. : 0421801660  
Cust. part No. : 1371441

Customer-spec. information  
Customer : SCANIA  
Motor : DS 14

TEST BENCH REQUIREMENTS

Test oil inlet  
temp. °C : 40  
Tolerance °C : +- 2.0  
Overflow valve : 1417413025  
Inlet press. bar : 2.5  
Test nozzle holde  
assembly : 1688901104  
Opening pressure  
bar : 251.5  
Tolerance bar : +- 1.5  
Test lines : 1680750008  
Outside diameter : 6.0  
x inside diameter : 2.0  
x length mm : 600

REMARKS

Check and set without ROBO diaphragam

(A) INJECTION PUMP SETTING VALUES  
Set equal delivery quant.  
per values \_\_\_\_\_

BEGINNING OF DELIVERY

Test pressure bar : 31.0  
Tolerance bar : +- 1.0

Prestroke mm : 4.45  
Tolerance mm : +- 0.05

test only : +- 0.10

Rack travel in mm : 10.50  
Tolerance mm : +- 1.50

Firing order : 1- 2- 7- 3- 4  
: - 5- 6- 8

Phasing : 0-45-90-135-180  
: -225-270-315  
Tolerance : +- 0.30  
Check  
tolerance °NW : +- 0.75

BEGINNING OF DELIVERY DIFFERENCE

Time to cyl. no. : 1

BASIC SETTING

Rated speed rpm : 700

Rack travel in mm : 16.15  
Tolerance mm : +- 0.05

Del. quantity  
cm<sup>3</sup>/1000 strokes : 315.0

Tolerance  
cm<sup>3</sup>/1000 strokes : +- 1.0

Check tolerance  
cm<sup>3</sup>/1000S. : +- 4.0

Spreed  
Tolerance  
cm<sup>3</sup>/1000 strokes : 8.0

Check tolerance  
cm<sup>3</sup>/1000S. : 12.0

(B) SETTING OF INJECTION PUMP  
WITH GOVERNOR

GUIDE SLEEVE TRAVEL

Rated speed rpm : 759  
guide sleeve  
travel mm : 6.36  
Tolerance mm : +- 0.25

Rated speed rpm : 520  
guide sleeve  
travel mm : -5.69  
Tolerance mm : +- 0.25

Rated speed rpm : 850  
guide sleeve  
travel mm : 16.58  
Tolerance mm : +- 0.25

Rated speed rpm : 798  
guide sleeve  
travel mm : 10.00  
Tolerance mm : +- 0.25

Rated speed rpm : 860  
guide sleeve  
travel mm : 11.50  
Tolerance mm : +- 0.50

FULL LOAD DELIVERY AT FULL LOAD STOP

Rated speed rpm : 700  
Aneroid pressure  
hPa : -  
Del. quantity  
cm<sup>3</sup>/1000 strokes : 315.0  
Tolerance  
cm<sup>3</sup>/1000 strokes : +- 1.0  
Check tolerance  
cm<sup>3</sup>/1000S. : +- 4.0  
Spreed  
Tolerance  
cm<sup>3</sup>/1000 strokes : 8.0

Check tolerance  
cm<sup>3</sup>/1000S. : 12.0

RATED SPEED

control lever  
position degree : 32.0  
tolerance degree : +- 4.0

control lever  
position degree : 94.0  
tolerance degree : +- 4.0

ANEROID/ALTITUDE  
COMPENSATOR TEST

SETTING

Rated speed rpm : 500  
Pressure hPa : 1500  
rack travel mm : 16.15  
Tolerance mm : +- 0.05

MEASUREMENT

Pressure hPa : -  
Rated speed rpm : 500  
rack travel mm : 12.50  
Tolerance mm : +- 0.20

Rated speed rpm : 500  
Pressure hPa : 420  
rack travel mm : 13.30  
Tolerance mm : +- 0.20

Pressure hPa : 680  
rack travel mm : 15.05  
Tolerance mm : +- 0.05

FUEL DELIVERY CHARACTERISTICS

Aneroid pressure  
hPa : -  
Rated speed rpm : 500  
Del. quantity  
cm<sup>3</sup>/1000 strokes : 221.0  
Tolerance  
cm<sup>3</sup>/1000 strokes : +- 1.0  
Check tolerance  
cm<sup>3</sup>/1000S. : +- 4.0

Aneroid pressure  
hPa : -  
Del. quantity  
cm<sup>3</sup>/1000 strokes : 19.0  
Tolerance  
cm<sup>3</sup>/1000 strokes : ± 4.0  
Check tolerance  
cm<sup>3</sup>/1000S. : ± 6.0  
Tolerance  
cm<sup>3</sup>/1000 strokes : 5.0  
Check tolerance  
cm<sup>3</sup>/1000S. : 9.0

---

STARTING FUEL DELIVERY

Rated speed rpm : 100  
rack travel mm : 12.50  
Tolerance mm : ± 0.20  
Del. quantity  
cm<sup>3</sup>/1000 strokes : 130.0  
Tolerance  
cm<sup>3</sup>/1000 strokes : ± 20.0  
Check tolerance  
cm<sup>3</sup>/1000S. : ± 24.0

BOSCH INJ. PUMP TEST SPECIFICATIONS

Note remarks

Refer to Service Info for test and adjustment instructions.  
See microcard(s) W400/...

Edition : 02.08.94  
Test oil : ISO 4113  
Combination No. : 0402746914  
Injection pump  
Pump designation : PES6P120A720LS7238  
                  : -10  
EP type number : 0412726873  
Governor  
Governor design. : RQ300/1100PA1008-4  
Governor no. : 0421801745  
Cust. part No. : 0200748002

Customer-spec. information  
Customer : MB-NFZ  
Motor : OM447 hLA  
Power KW : 220.0

TEST BENCH REQUIREMENTS

Test oil inlet  
temp. °C : 40  
Tolerance °C : ± 2.0  
Overflow valve : 1417413025  
Inlet press. bar : 1.5  
Tolerance L/h : ± 10.0  
Test nozzle holde  
assembly : 1688901105  
Opening pressure  
bar : 208.5  
Tolerance bar : ± 1.5  
Test lines : 1680750075

Outside diameter : 8.0  
x inside diameter : 3.0  
x length mm : 1000

REMARKS

(A) INJECTION PUMP SETTING VALUES  
Set equal delivery quant.  
per values \_\_\_\_\_

BEGINNING OF DELIVERY

Prestroke mm : 5.55  
Tolerance mm : ± 0.05  
test only : ± 0.10  
Rack travel in mm : 20.50  
Tolerance mm : ± 0.50  
Firing order : 6- 2- 4- 1- 5-  
                  : 3  
Phasing : 0-60-120-180-240  
          : -300  
Tolerance : ± 0.50  
Check  
tolerance °NW : ± 0.75

BEGINNING OF DELIVERY DIFFERENCE

Time to cyl. no. : 6

BASIC SETTING

Rated speed rpm : 600  
Rack travel in mm : 13.80  
Tolerance mm : ± 0.10  
Del. quantity  
cm<sup>3</sup>/1000 strokes : 206.0  
Tolerance  
cm<sup>3</sup>/1000 strokes : ± 1.0

Check tolerance  
 cm<sup>3</sup>/1000S. : + 4.0  


---

 Spreed  
 Tolerance  
 cm<sup>3</sup>/1000 strokes : 5.0  


---

 Check tolerance  
 cm<sup>3</sup>/1000S. : 9.0  
 2nd speed rpm : 300  
 Rack travel in mm : 6.30  
 Tolerance mm : + 0.30  
 Del. quantity  
 cm<sup>3</sup>/1000 strokes : 19.0  
 Tolerance  
 cm<sup>3</sup>/1000 strokes : + 3.0  
 Check tolerance  
 cm<sup>3</sup>/1000S. : + 6.0  
 Spreed  
 Tolerance  
 cm<sup>3</sup>/1000 strokes : 8.0  
 Check tolerance  
 cm<sup>3</sup>/1000S. : 12.0

(B) SETTING OF INJECTION PUMP  
WITH GOVERNOR

GUIDE SLEEVE POSITION

Rated speed rpm : 650  
 Rack travel in mm : 20.00  
 Tolerance mm : + 0.80

FULL LOAD DELIVERY AT FULL LOAD STOP

Rated speed rpm : 600  
 Aneroid pressure  
 hPa : 600  
 Del. quantity  
 cm<sup>3</sup>/1000 strokes : 206.0  
 Tolerance  
 cm<sup>3</sup>/1000 strokes : + 1.0  
 Check tolerance  
 cm<sup>3</sup>/1000S. : + 4.0  
 Spreed  
 Tolerance  
 cm<sup>3</sup>/1000 strokes : 5.0  
 Check tolerance  
 cm<sup>3</sup>/1000S. : 9.0

RATED SPEED

control lever  
 position degree : 98.0  
 tolerance degree : + 4.0  
 rack travel mm : 13.30  
 Rated speed rpm : 1153  
 Tolerance 1/min : + 8  
 rack travel mm : 4.00  
 Rated speed rpm : 1235  
 Tolerance 1/min : + 15  
 rack travel mm : 0.75  
 Tolerance mm : + 0.75  
 Rated speed rpm : 1300

LOW IDLE

control lever  
 position degree : 73.0  
 tolerance degree : + 4.0

Testing:

Rated speed rpm : 300  
 rack travel mm : 6.30  
 Tolerance mm : + 0.10  
 rack travel mm : 2.00  
 Rated speed rpm : 400  
 Tolerance 1/min : + 20  
 Rated speed rpm : 200  
 CRT mm min. : > 8.20

TORQUE CONTROL

Rated speed rpm : 600  
 rack travel mm : 13.80  
 Tolerance mm : + 0.10  
 Rated speed rpm : 1100  
 rack travel mm : 14.50  
 Tolerance mm : + 0.10

ANEROID/ALTITUDE  
COMPENSATOR TEST

MEASUREMENT

Pressure hPa : 150  
 rack travel mm : -2.10



Tolerance mm : + 0.05

Pressure hPa : 350  
rack travel mm : -0.60  
Tolerance mm : + 0.10

Pressure hPa : 800  
rack travel mm : 0.20  
Tolerance mm : + 0.05

---

#### START CUT-OUT

Rated speed rpm : > 100  
Check  
speed 1/min : > 80  
Rated speed rpm : < 220  
Check  
speed 1/min : < 240

---

#### FUEL DELIVERY CHARACTERISTICS

Aneroid pressure  
hPa : 1400  
Rated speed rpm : 1100  
Del. quantity  
cm<sup>3</sup>/1000 strokes : 222.5  
Tolerance  
cm<sup>3</sup>/1000 strokes : + 1.5  
Check tolerance  
cm<sup>3</sup>/1000S. : + 4.5  
Speed  
Tolerance  
cm<sup>3</sup>/1000 strokes : 8.0  
Check tolerance  
cm<sup>3</sup>/1000S. : 12.0

Aneroid pressure  
hPa : -  
Rated speed rpm : 500  
Del. quantity  
cm<sup>3</sup>/1000 strokes : 141.0  
Tolerance  
cm<sup>3</sup>/1000 strokes : + 1.0  
Check tolerance  
cm<sup>3</sup>/1000S. : + 4.0  
Speed  
Tolerance  
cm<sup>3</sup>/1000 strokes : 8.0  
Check tolerance  
cm<sup>3</sup>/1000S. : 12.0

---

#### BREAKAWAY

Rack travel in mm : 13.30  
Rated speed rpm : 1153  
Tolerance 1/min : + 8

---

#### STARTING FUEL DELIVERY

Rated speed rpm : 100  
Del. quantity  
cm<sup>3</sup>/1000 strokes : 230.0  
Tolerance  
cm<sup>3</sup>/1000 strokes : + 15.0  
Check tolerance  
cm<sup>3</sup>/1000S. : + 19.0

---

#### LOW IDLE

Rated speed rpm : 300  
rack travel mm : 6.30  
Tolerance mm : + 0.30  
Del. quantity  
cm<sup>3</sup>/1000 strokes : 19.0  
Tolerance  
cm<sup>3</sup>/1000 strokes : + 3.0  
Check tolerance  
cm<sup>3</sup>/1000S. : + 6.0  
Speed  
Tolerance  
cm<sup>3</sup>/1000 strokes : 8.0  
Check tolerance  
cm<sup>3</sup>/1000S. : 12.0

BOSCH INJ. PUMP TEST SPECIFICATIONS

Note remarks

Refer to Service Info for test and adjustment instructions.  
See microcard(s) W400/...

Edition : 14.12.94  
Test oil : ISO 4113  
Combination No. : 0403244034  
Injection pump  
Pump designation : PES4MW100/72ORS1519  
: -3  
EP type number : 0413204018  
Governor  
Governor design. : RQV300...1300MW132  
: -3  
Governor no. : 0420083296  
Cust. part No. : 0240740702

Customer-spec. information  
Customer : MB-NFZ  
Motor : OM364LA  
Power kW : 77.0

TEST BENCH REQUIREMENTS

Test oil inlet  
temp. °C : 40  
Tolerance °C : ± 2.0  
Overflow valve : 1419992198  
Inlet press. bar : 1.5  
Test nozzle holder  
assembly : 1688901101  
Opening pressure  
bar : 208.5  
Tolerance bar : ± 1.5  
Test lines : 1680750089  
Outside diameter : 8.0

x inside diameter : 3.0  
x length mm : 600

REMARKS

(A) INJECTION PUMP SETTING VALUES  
Set equal delivery quant.  
per values \_\_\_\_\_

BEGINNING OF DELIVERY

Test pressure bar : 31.0  
Tolerance bar : ± 1.0  
Prestroke mm : 4.55  
Tolerance mm : ± 0.05  
test only : ± 0.10  
Rack travel in mm : 21.00  
Firing order : 1- 3- 4- 2  
Phasing : 0-90-180-270  
Tolerance : ± 0.50  
Check  
tolerance °NW : ± 0.75

BASIC SETTING

Rated speed rpm : 1300  
Rack travel in mm : 11.15  
Tolerance mm : ± 0.05  
Del. quantity  
cm<sup>3</sup>/1000 strokes : 86.0  
Tolerance  
cm<sup>3</sup>/1000 strokes : ± 1.0  
Check tolerance  
cm<sup>3</sup>/1000S. : ± 3.0  
Speed  
Tolerance  
cm<sup>3</sup>/1000 strokes : 3.5

Check tolerance  
cm<sup>3</sup>/1000S. : 6.0

Del. quantity  
cm<sup>3</sup>/1000 strokes : 12.0

Tolerance  
cm<sup>3</sup>/1000 strokes : ± 2.0

Check tolerance  
cm<sup>3</sup>/1000S. : ± 4.5

Spread  
Tolerance  
cm<sup>3</sup>/1000 strokes : 3.5

Check tolerance  
cm<sup>3</sup>/1000S. : 5.5

(B) SETTING OF INJECTION PUMP  
WITH GOVERNOR

GUIDE SLEEVE TRAVEL

Rated speed rpm : 300  
guide sleeve  
travel mm : 0.91  
Tolerance mm : ± 0.25

Rated speed rpm : 1345  
guide sleeve  
travel mm : 7.64  
Tolerance mm : ± 0.25

Rated speed rpm : 1140  
guide sleeve  
travel mm : 5.88  
Tolerance mm : ± 0.25

Rated speed rpm : 629  
guide sleeve  
travel mm : 3.15  
Tolerance mm : ± 0.25

Rated speed rpm : 679  
guide sleeve  
travel mm : 3.53  
Tolerance mm : ± 0.25

Rated speed rpm : 800  
guide sleeve  
travel mm : 4.00  
Tolerance mm : ± 0.25

Rated speed rpm : 1596  
guide sleeve  
travel mm : 12.00  
Tolerance mm : ± 0.25

Rated speed rpm : 1690  
guide sleeve  
travel mm : 13.50

Tolerance mm : ± 0.50

GUIDE SLEEVE POSITION

Rated speed rpm : 1500

Rack travel in mm : 10.00  
Tolerance mm : ± 2.00

FULL LOAD DELIVERY AT FULL LOAD STOP

Rated speed rpm : 1300  
Aneroid pressure  
hPa : 700

Del. quantity  
cm<sup>3</sup>/1000 strokes : 86.0  
Tolerance  
cm<sup>3</sup>/1000 strokes : ± 1.0

Check tolerance  
cm<sup>3</sup>/1000S. : ± 3.0

Spread  
Tolerance  
cm<sup>3</sup>/1000 strokes : 3.5  
Check tolerance  
cm<sup>3</sup>/1000S. : 6.0

RATED SPEED

control lever  
position degree : 112.0  
tolerance degree : ± 4.0

rack travel mm : 10.10  
Rated speed rpm : 1345  
Tolerance 1/min : ± 5

rack travel mm : 4.00  
Rated speed rpm : 1435  
Tolerance 1/min : ± 15

rack travel mm : 0.50  
Tolerance mm : ± 0.50  
Rated speed rpm : 1550

LOW IDLE

control lever  
position degree : 70.0  
tolerance degree : ± 4.0

Testing:

Rated speed rpm : 300  
rack travel mm : 4.00

Tolerance mm :  $\pm$  0.10  
Rated speed rpm : 200  
CRT mm min. :  $>$  4.50

---

#### TORQUE CONTROL

Rated speed rpm : 1300  
rack travel mm : 11.15  
Tolerance mm :  $\pm$  0.05

Rated speed rpm : 750  
rack travel mm : 11.15  
Tolerance mm :  $\pm$  0.10

---

#### ANEROID/ALTITUDE COMPENSATOR TEST

#### SETTING

Rated speed rpm : 500  
Pressure hPa : 700  
rack travel mm : 11.15  
Tolerance mm :  $\pm$  0.05

#### MEASUREMENT

Pressure hPa : -  
Rated speed rpm : 500  
Tolerance mm :  $\pm$  0.10

Rated speed rpm : 500

Pressure hPa : 250  
rack travel mm : 0.30  
Tolerance mm :  $\pm$  0.10

---

#### START CUT-OUT

Rated speed rpm :  $>$  100  
Check  
speed 1/min :  $>$  80  
Rated speed rpm :  $<$  200  
Check  
speed 1/min :  $<$  220

---

#### FUEL DELIVERY CHARACTERISTICS

Aneroid pressure  
hPa : 700  
Rated speed rpm : 750  
Del. quantity  
cm<sup>3</sup>/1000 strokes : 80.0

Tolerance  
cm<sup>3</sup>/1000 strokes :  $\pm$  1.5  
Check tolerance  
cm<sup>3</sup>/1000S. :  $\pm$  4.0

Speed  
Tolerance  
cm<sup>3</sup>/1000 strokes : 5.0  
Check tolerance  
cm<sup>3</sup>/1000S. : 7.0

Aneroid pressure  
hPa : -  
Rated speed rpm : 500  
Del. quantity  
cm<sup>3</sup>/1000 strokes : 71.0  
Tolerance  
cm<sup>3</sup>/1000 strokes :  $\pm$  1.0  
Check tolerance  
cm<sup>3</sup>/1000S. :  $\pm$  3.0

---

#### BREAKAWAY

Rack travel in mm : 10.10  
Rated speed rpm : 1345  
Tolerance 1/min :  $\pm$  5

---

#### STARTING FUEL DELIVERY

Rated speed rpm : 100  
Del. quantity  
cm<sup>3</sup>/1000 strokes : 125.0  
Tolerance  
cm<sup>3</sup>/1000 strokes :  $\pm$  5.0  
Check tolerance  
cm<sup>3</sup>/1000S. :  $\pm$  8.0

---

#### LOW IDLE

Del. quantity  
cm<sup>3</sup>/1000 strokes : 12.0  
Tolerance  
cm<sup>3</sup>/1000 strokes :  $\pm$  2.0  
Check tolerance  
cm<sup>3</sup>/1000S. :  $\pm$  4.5  
Speed  
Tolerance  
cm<sup>3</sup>/1000 strokes : 3.5  
Check tolerance  
cm<sup>3</sup>/1000S. : 5.5

**BOSCH INJ. PUMP TEST SPECIFICATIONS**

Note remarks

Refer to Service Info for test and adjustment instructions.  
See microcard(s) W400/...

Edition : 14.12.94  
Test oil : ISO 4113  
Combination No. : 0403244035  
Injection pump  
Pump designation : PES4MW100/72ORS1519  
: -3  
EP type number : 0413204018  
Governor  
Governor design. : RGV300...1300MW132  
: -3  
Governor no. : 0420083296  
Cust. part No. : 0240740802

---

Customer spec. information  
Customer : MB-NFZ  
Motor : OM364LA  
Power Kw : 77.0

---

**TEST BENCH REQUIREMENTS**

Test oil inlet  
temp. °C : 40  
Tolerance °C : ± 2.0  
Overflow valve : 1419992198  
Inlet press. bar : 1.5  
Test nozzle holder  
assembly : 1688901101  
Opening pressure  
bar : 208.5  
Tolerance bar : ± 1.5  
Test lines : 1680750089  
Outside diameter : 8.0

x inside diameter : 3.0  
x length mm : 600

---

**REMARKS**

(A) INJECTION PUMP SETTING VALUES  
Set equal delivery quant.  
per values \_\_\_\_\_

---

**BEGINNING OF DELIVERY**

Test pressure bar : 31.0  
Tolerance bar : ± 1.0  
Prestroke mm : 4.55  
Tolerance mm : ± 0.05  
test only : ± 0.10  
Rack travel in mm : 21.00  
Firing order : 1- 3- 4- 2  
Phasing : 0-90-180-270  
Tolerance : ± 0.50  
Check  
tolerance \*NW : ± 0.75

---

**BASIC SETTING**

Rated speed rpm : 1300  
Rack travel in mm : 11.15  
Tolerance mm : ± 0.05  
Del. quantity  
cm<sup>3</sup>/1000 strokes : 86.0  
Tolerance  
cm<sup>3</sup>/1000 strokes : ± 1.0  
Check tolerance  
cm<sup>3</sup>/1000S. : ± 3.0  
Speed  
Tolerance  
cm<sup>3</sup>/1000 strokes : 3.5

---

Check tolerance  
 cm<sup>3</sup>/1000S. : 6.0  
 Del. quantity  
 cm<sup>3</sup>/1000 strokes : 12.0  
 Tolerance  
 cm<sup>3</sup>/1000 strokes : ± 2.0  
 Check tolerance  
 cm<sup>3</sup>/1000S. : ± 4.5  
 Spreed  
 Tolerance  
 cm<sup>3</sup>/1000 strokes : 3.5  
 Check tolerance  
 cm<sup>3</sup>/1000S. : 5.5

(B) SETTING OF INJECTION PUMP  
WITH GOVERNOR

GUIDE SLEEVE TRAVEL

Rated speed rpm : 300  
 guide sleeve  
 travel mm : 0.91  
 Tolerance mm : ± 0.25  
 Rated speed rpm : 1345  
 guide sleeve  
 travel mm : 7.64  
 Tolerance mm : ± 0.25  
 Rated speed rpm : 1140  
 guide sleeve  
 travel mm : 5.88  
 Tolerance mm : ± 0.25  
 Rated speed rpm : 629  
 guide sleeve  
 travel mm : 3.15  
 Tolerance mm : ± 0.25  
 Rated speed rpm : 679  
 guide sleeve  
 travel mm : 3.53  
 Tolerance mm : ± 0.25  
 Rated speed rpm : 800  
 guide sleeve  
 travel mm : 4.00  
 Tolerance mm : ± 0.25  
 Rated speed rpm : 1596  
 guide sleeve  
 travel mm : 12.00  
 Tolerance mm : ± 0.25  
 Rated speed rpm : 1690  
 guide sleeve  
 travel mm : 13.50

Tolerance mm : ± 0.50

GUIDE SLEEVE POSITION

Rated speed rpm : 1500  
 Rack travel in mm : 10.00  
 Tolerance mm : ± 2.00

FULL LOAD DELIVERY AT FULL LOAD STOP

Rated speed rpm : 1300  
 Aneroid pressure  
 hPa : 700  
 Del. quantity  
 cm<sup>3</sup>/1000 strokes : 86.0  
 Tolerance  
 cm<sup>3</sup>/1000 strokes : ± 1.0  
 Check tolerance  
 cm<sup>3</sup>/1000S. : ± 3.0  
 Spreed  
 Tolerance  
 cm<sup>3</sup>/1000 strokes : 3.5  
 Check tolerance  
 cm<sup>3</sup>/1000S. : 6.0

RATED SPEED

control lever  
 position degree : 112.0  
 tolerance degree : ± 4.0  
 rack travel mm : 10.10  
 Rated speed rpm : 1345  
 Tolerance 1/min : ± 5  
 rack travel mm : 4.00  
 Rated speed rpm : 1435  
 Tolerance 1/min : ± 15  
 rack travel mm : 0.50  
 Tolerance mm : ± 0.50  
 Rated speed rpm : 1550

LOW IDLE

control lever  
 position degree : 70.0  
 tolerance degree : ± 4.0

Testing:

Rated speed rpm : 300  
 rack travel mm : 4.00

Tolerance mm : ± 0.10  
Rated speed rpm : 200  
CRT mm min. : > 4.50

---

**TORQUE CONTROL**

Rated speed rpm : 1300  
rack travel mm : 11.15  
Tolerance mm : ± 0.05

Rated speed rpm : 750  
rack travel mm : 11.15  
Tolerance mm : ± 0.10

---

**ANEROID/ALTITUDE  
COMPENSATOR TEST**

**SETTING**

Rated speed rpm : 500  
Pressure hPa : 700  
rack travel mm : 11.15  
Tolerance mm : ± 0.05

**MEASUREMENT**

Pressure hPa : -  
Rated speed rpm : 500  
Tolerance mm : ± 0.10

Rated speed rpm : 500  
Pressure hPa : 250  
rack travel mm : 0.30  
Tolerance mm : ± 0.10

---

**START CUT-OUT**

Rated speed rpm : > 100  
Check  
speed 1/min : > 80  
Rated speed rpm : < 200  
Check  
speed 1/min : < 220

---

**FUEL DELIVERY CHARACTERISTICS**

Aneroid pressure  
hPa : 700  
Rated speed rpm : 750  
Del. quantity  
cm<sup>3</sup>/1000 strokes : 80.0

Tolerance  
cm<sup>3</sup>/1000 strokes : ± 1.5  
Check tolerance  
cm<sup>3</sup>/1000S. : ± 4.0

Speed  
Tolerance  
cm<sup>3</sup>/1000 strokes : 5.0  
Check tolerance  
cm<sup>3</sup>/1000S. : 7.0

Aneroid pressure  
hPa : -  
Rated speed rpm : 500  
Del. quantity  
cm<sup>3</sup>/1000 strokes : 71.0  
Tolerance  
cm<sup>3</sup>/1000 strokes : ± 1.0  
Check tolerance  
cm<sup>3</sup>/1000S. : ± 3.0

---

**BREAKAWAY**

Rack travel in mm : 10.10  
Rated speed rpm : 1345  
Tolerance 1/min : ± 5

---

**STARTING FUEL DELIVERY**

Rated speed rpm : 100  
Del. quantity  
cm<sup>3</sup>/1000 strokes : 125.0  
Tolerance  
cm<sup>3</sup>/1000 strokes : ± 5.0  
Check tolerance  
cm<sup>3</sup>/1000S. : ± 8.0

---

**LOW IDLE**

Del. quantity  
cm<sup>3</sup>/1000 strokes : 12.0  
Tolerance  
cm<sup>3</sup>/1000 strokes : ± 2.0  
Check tolerance  
cm<sup>3</sup>/1000S. : ± 4.5  
Speed  
Tolerance  
cm<sup>3</sup>/1000 strokes : 3.5  
Check tolerance  
cm<sup>3</sup>/1000S. : 5.5

BOSCH INJ. PUMP TEST SPECIFICATIONS

Note remarks

Refer to Service Info for test and adjustment instructions.  
See microcard(s) W400/...

Edition : 14.12.94  
Test oil : ISO 4113  
Combination No. : 0403246036  
Injection pump  
Pump designation : PES6MW100/720RS1517  
: -2  
EP type number : 0413206019  
Governor  
Governor design. : RQV300...1300MW132  
: -4  
Governor no. : 0420083299  
Cust. part No. : 0240744402

Customer-spec. information  
Customer : MB-NFZ  
Motor : OM366LA  
Power KW : 155.0

TEST BENCH REQUIREMENTS

Test oil inlet  
temp. °C : 40  
Tolerance °C : ± 2.0  
Overflow valve : 1419992198  
Inlet press. bar : 1.5  
Test nozzle holde  
assembly : 1688901101  
Opening pressure  
bar : 208.5  
Tolerance bar : ± 1.5  
Test lines : 1680750089  
Outside diameter : 8.0

x inside diameter : 3.0  
x length mm : 600

REMARKS

(A) INJECTION PUMP SETTING VALUES  
Set equal delivery quant.  
per values \_\_\_\_\_

BEGINNING OF DELIVERY

Test pressure bar : 31.0  
Tolerance bar : ± 1.0  
Prestroke mm : 4.55  
Tolerance mm : ± 0.05  
test only : ± 0.10  
Rack travel in mm : 21.00  
Firing order : 1- 5- 3- 6- 2-  
: 4  
Phasing : 0-60-120-180-240  
: -300  
Tolerance : ± 0.50  
Check  
tolerance °NW : ± 0.75

BASIC SETTING

Rated speed rpm : 1300  
Rack travel in mm : 13.30  
Tolerance mm : ± 0.05  
Del. quantity  
cm<sup>3</sup>/1000 strokes : 118.0  
Tolerance  
cm<sup>3</sup>/1000 strokes : ± 1.0  
Check tolerance  
cm<sup>3</sup>/1000S. : ± 3.0  
Speed



Tolerance  
cm<sup>3</sup>/1000 strokes : 3.5

Check tolerance  
cm<sup>3</sup>/1000S. : 6.0

Del. quantity  
cm<sup>3</sup>/1000 strokes : 12.0

Tolerance  
cm<sup>3</sup>/1000 strokes : ± 2.0

Check tolerance  
cm<sup>3</sup>/1000S. : ± 4.5

Spreed  
Tolerance  
cm<sup>3</sup>/1000 strokes : 3.5

Check tolerance  
cm<sup>3</sup>/1000S. : 5.5

(B) SETTING OF INJECTION PUMP  
WITH GOVERNOR

GUIDE SLEEVE TRAVEL

Rated speed rpm : 300  
guide sleeve  
travel mm : 1.02  
Tolerance mm : ± 0.25

Rated speed rpm : 1353  
guide sleeve  
travel mm : 6.70  
Tolerance mm : ± 0.25

Rated speed rpm : 1100  
guide sleeve  
travel mm : 4.76  
Tolerance mm : ± 0.25

Rated speed rpm : 490  
guide sleeve  
travel mm : 2.25  
Tolerance mm : ± 0.25

Rated speed rpm : 540  
guide sleeve  
travel mm : 2.50  
Tolerance mm : ± 0.25

Rated speed rpm : 710  
guide sleeve  
travel mm : 3.03  
Tolerance mm : ± 0.25

Rated speed rpm : 1683  
guide sleeve  
travel mm : 12.00  
Tolerance mm : ± 0.25

Rated speed rpm : 1780  
guide sleeve  
travel mm : 13.50  
Tolerance mm : ± 0.50

GUIDE SLEEVE POSITION

Rated speed rpm : 1450

Rack travel in mm : 13.00  
Tolerance mm : ± 2.00

FULL LOAD DELIVERY AT FULL LOAD STOP

Rated speed rpm : 1300  
Aneroid pressure  
hPa : 1000  
Del. quantity  
cm<sup>3</sup>/1000 strokes : 118.0

Tolerance  
cm<sup>3</sup>/1000 strokes : ± 1.0  
Check tolerance  
cm<sup>3</sup>/1000S. : ± 3.0

Spreed  
Tolerance  
cm<sup>3</sup>/1000 strokes : 3.5  
Check tolerance  
cm<sup>3</sup>/1000S. : 6.0

RATED SPEED

control lever  
position degree : 120.0  
tolerance degree : ± 4.0

rack travel mm : 12.30  
Rated speed rpm : 1345  
Tolerance 1/min : ± 5

rack travel mm : 4.00  
Rated speed rpm : 1485  
Tolerance 1/min : ± 15

rack travel mm : 0.50  
Tolerance mm : ± 0.50  
Rated speed rpm : 1550

LOW IDLE

control lever  
position degree : 72.0  
tolerance degree : ± 4.0

Testing:

Rated speed rpm : 300  
rack travel mm : 3.80  
Tolerance mm : ± 0.10

Rated speed rpm : 200  
CRT mm min. : > 4.50

---

#### TORQUE CONTROL

Rated speed rpm : 1300  
rack travel mm : 13.30  
Tolerance mm : ± 0.05

Rated speed rpm : 750  
rack travel mm : 13.30  
Tolerance mm : ± 0.10

Rated speed rpm : 600  
rack travel mm : 13.30  
Tolerance mm : ± 0.10

---

#### ANEROID/ALTITUDE COMPENSATOR TEST

#### SETTING

Rated speed rpm : 500  
Pressure hPa : 1000  
rack travel mm : 13.30  
Tolerance mm : ± 0.05

#### MEASUREMENT

Pressure hPa : -  
Rated speed rpm : 500  
Tolerance mm : ± 0.10

Rated speed rpm : 500  
Pressure hPa : 600  
rack travel mm : 3.00  
Tolerance mm : ± 0.10

Pressure hPa : 300  
rack travel mm : 1.20  
Tolerance mm : ± 0.10

---

#### START CUT-OUT

Rated speed rpm : > 100  
Check  
speed 1/min : > 80  
Rated speed rpm : < 200

Check  
speed 1/min : < 220

---

#### FUEL DELIVERY CHARACTERISTICS

Aneroid pressure  
hPa : 1000  
Rated speed rpm : 750  
Del. quantity  
cm<sup>3</sup>/1000 strokes : 117.0  
Tolerance  
cm<sup>3</sup>/1000 strokes : ± 1.5  
Check tolerance  
cm<sup>3</sup>/1000S. : ± 4.0  
Spreed  
Tolerance  
cm<sup>3</sup>/1000 strokes : 5.5  
Check tolerance  
cm<sup>3</sup>/1000S. : 7.0

Aneroid pressure  
hPa : 1000  
Rated speed rpm : 600  
Del. quantity  
cm<sup>3</sup>/1000 strokes : 119.0  
Tolerance  
cm<sup>3</sup>/1000 strokes : ± 1.5  
Check tolerance  
cm<sup>3</sup>/1000S. : ± 4.0

Aneroid pressure  
hPa : -  
Rated speed rpm : 500  
Del. quantity  
cm<sup>3</sup>/1000 strokes : 48.0  
Tolerance  
cm<sup>3</sup>/1000 strokes : ± 1.0  
Check tolerance  
cm<sup>3</sup>/1000S. : ± 3.0

---

#### BREAKAWAY

Rack travel in mm : 12.30  
Rated speed rpm : 1345  
Tolerance 1/min : ± 5

---

#### STARTING FUEL DELIVERY

Rated speed rpm : 100  
Del. quantity  
cm<sup>3</sup>/1000 strokes : 150.0  
Tolerance  
cm<sup>3</sup>/1000 strokes : ± 5.0  
Check tolerance  
cm<sup>3</sup>/1000S. : ± 8.0

---

LOW IDLE

Del. quantity  
cm<sup>3</sup>/1000 strokes : 12.0  
Tolerance  
cm<sup>3</sup>/1000 strokes : ± 2.0  
Check tolerance  
cm<sup>3</sup>/1000S. : ± 4.5  
Spreed  
Tolerance  
cm<sup>3</sup>/1000 strokes : 3.5  
Check tolerance  
cm<sup>3</sup>/1000S. : 5.5



BOSCH INJ. PUMP TEST SPECIFICATIONS

Note remarks

Refer to Service Info for test and adjustment instructions.  
See microcard(s) W400/...

Edition : 14.12.94  
Test oil : ISO 4113  
Combination No. : 0403246038  
Injection pump  
Pump designation : PES6MW100/720RS1517  
: -2  
EP type number : 0413206019  
Governor  
Governor design. : RQV300...1300MW132  
: -10  
Governor no. : 0420083315  
Cust. part No. : 0250743902

Customer-spec. information  
Customer : MB-NFZ  
Motor : OM366LA  
Power KW : 155.0

TEST BENCH REQUIREMENTS

Test oil inlet  
temp. °C : 40  
Tolerance °C : ± 2.0  
Overflow valve : 1419992198  
Inlet press. bar : 1.5  
Test nozzle holde  
assembly : 1688901101  
Opening pressure  
bar : 208.5  
Tolerance bar : ± 1.5  
Test lines : 1680750089  
Outside diameter : 8.0

x inside diameter : 3.0  
x length mm : 600

REMARKS

(A) INJECTION PUMP SETTING VALUES  
Set equal delivery quant.  
per values \_\_\_\_\_

BEGINNING OF DELIVERY

Test pressure bar : 31.0  
Tolerance bar : ± 1.0  
Prestroke mm : 4.55  
Tolerance mm : ± 0.05  
test only : ± 0.10  
Rack travel in mm : 21.00  
Firing order : 1- 5- 3- 6- 2-  
: 4  
Phasing : 0-60-120-180-240  
: -300  
Tolerance : ± 0.50  
Check  
tolerance °NW : ± 0.75

BASIC SETTING

Rated speed rpm : 1300  
Rack travel in mm : 13.30  
Tolerance mm : ± 0.05  
Del. quantity  
cm<sup>3</sup>/1000 strokes : 118.0  
Tolerance  
cm<sup>3</sup>/1000 strokes : ± 1.0  
Check tolerance  
cm<sup>3</sup>/1000S. : ± 3.0  
Speed

Tolerance  
cm<sup>3</sup>/1000 strokes : 3.5

---

Check tolerance  
cm<sup>3</sup>/1000S. : 6.0

Del. quantity  
cm<sup>3</sup>/1000 strokes : 12.0

Tolerance  
cm<sup>3</sup>/1000 strokes : +- 2.0

Check tolerance  
cm<sup>3</sup>/1000S. : +- 4.5

Spreed  
Tolerance  
cm<sup>3</sup>/1000 strokes : 3.5

Check tolerance  
cm<sup>3</sup>/1000S. : 5.5

(B) SETTING OF INJECTION PUMP  
WITH GOVERNOR

GUIDE SLEEVE TRAVEL

Rated speed rpm : 300  
guide sleeve  
travel mm : 1.02  
Tolerance mm : +- 0.25

Rated speed rpm : 1354  
guide sleeve  
travel mm : 6.71  
Tolerance mm : +- 0.25

Rated speed rpm : 1090  
guide sleeve  
travel mm : 4.70  
Tolerance mm : +- 0.25

Rated speed rpm : 490  
guide sleeve  
travel mm : 2.25  
Tolerance mm : +- 0.25

Rated speed rpm : 540  
guide sleeve  
travel mm : 2.54  
Tolerance mm : +- 0.25

Rated speed rpm : 690  
guide sleeve  
travel mm : 2.97  
Tolerance mm : +- 0.25

Rated speed rpm : 1683  
guide sleeve  
travel mm : 12.00  
Tolerance mm : +- 0.25

Rated speed rpm : 1780  
guide sleeve  
travel mm : 13.50  
Tolerance mm : +- 0.50

GUIDE SLEEVE POSITION

Rated speed rpm : 1450

Rack travel in mm : 11.00  
Tolerance mm : +- 2.00

FULL LOAD DELIVERY AT FULL LOAD STOP

Rated speed rpm : 1300  
Aneroid pressure  
hPa : 1000

Del. quantity  
cm<sup>3</sup>/1000 strokes : 118.0

Tolerance  
cm<sup>3</sup>/1000 strokes : +- 1.0

Check tolerance  
cm<sup>3</sup>/1000S. : +- 3.0

Spreed  
Tolerance  
cm<sup>3</sup>/1000 strokes : 3.5

Check tolerance  
cm<sup>3</sup>/1000S. : 6.0

RATED SPEED

control lever  
position degree : 120.0  
tolerance degree : +- 4.0

rack travel mm : 12.30  
Rated speed rpm : 1345  
Tolerance 1/min : +- 5

rack travel mm : 4.00  
Rated speed rpm : 1485  
Tolerance 1/min : +- 15

rack travel mm : 0.50  
Tolerance mm : +- 0.50  
Rated speed rpm : 1550

LOW IDLE

control lever  
position degree : 72.0  
tolerance degree : +- 4.0

Testing:

Rated speed rpm : 300  
rack travel mm : 3.80  
Tolerance mm : + 0.10

Rated speed rpm : 200  
CRT mm min. : > 4.50

---

#### TORQUE CONTROL

Rated speed rpm : 1300  
rack travel mm : 13.30  
Tolerance mm : + 0.05

Rated speed rpm : 750  
rack travel mm : 13.30  
Tolerance mm : + 0.10

Rated speed rpm : 600  
rack travel mm : 13.30  
Tolerance mm : + 0.10

---

#### ANEROID/ALTITUDE COMPENSATOR TEST

#### SETTING

Rated speed rpm : 500  
Pressure hPa : 1000  
rack travel mm : 13.30  
Tolerance mm : + 0.05

#### MEASUREMENT

Pressure hPa : -  
Rated speed rpm : 500  
Tolerance mm : + 0.10

Rated speed rpm : 500

Pressure hPa : 600  
rack travel mm : 3.00  
Tolerance mm : + 0.10

Pressure hPa : 300  
rack travel mm : 1.20  
Tolerance mm : + 0.10

---

#### START CUT-OUT

Rated speed rpm : > 100  
Check  
speed 1/min : > 80  
Rated speed rpm : < 200

Check  
speed 1/min : < 220

---

#### FUEL DELIVERY CHARACTERISTICS

Aneroid pressure  
hPa : 1000  
Rated speed rpm : 750  
Del. quantity  
cm<sup>3</sup>/1000 strokes : 117.0  
Tolerance

cm<sup>3</sup>/1000 strokes : + 1.5  
Check tolerance  
cm<sup>3</sup>/1000S. : + 4.0

Spread  
Tolerance  
cm<sup>3</sup>/1000 strokes : 5.5  
Check tolerance  
cm<sup>3</sup>/1000S. : 7.0

Aneroid pressure  
hPa : 1000  
Rated speed rpm : 600  
Del. quantity  
cm<sup>3</sup>/1000 strokes : 119.0  
Tolerance  
cm<sup>3</sup>/1000 strokes : + 1.5  
Check tolerance  
cm<sup>3</sup>/1000S. : + 4.0

Aneroid pressure  
hPa : 1000  
Rated speed rpm : 1300  
Del. quantity  
cm<sup>3</sup>/1000 strokes : 104.0  
Tolerance  
cm<sup>3</sup>/1000 strokes : + 1.5  
Check tolerance  
cm<sup>3</sup>/1000S. : + 3.0

Aneroid pressure  
hPa : -  
Rated speed rpm : 500  
Del. quantity  
cm<sup>3</sup>/1000 strokes : 48.0  
Tolerance  
cm<sup>3</sup>/1000 strokes : + 1.0  
Check tolerance  
cm<sup>3</sup>/1000S. : + 3.0

---

#### BREAKAWAY

Rack travel in mm : 12.30  
Rated speed rpm : 1345  
Tolerance 1/min : + 5

---

STARTING FUEL DELIVERY

Rated speed rpm : 100  
Del. quantity  
cm<sup>3</sup>/1000 strokes : 150.0  
Tolerance  
cm<sup>3</sup>/1000 strokes : ± 5.0  
Check tolerance  
cm<sup>3</sup>/1000S. : ± 8.0

---

LOW IDLE

Del. quantity  
cm<sup>3</sup>/1000 strokes : 12.0  
Tolerance  
cm<sup>3</sup>/1000 strokes : ± 2.0  
Check tolerance  
cm<sup>3</sup>/1000S. : ± 4.5  
Spreed  
Tolerance  
cm<sup>3</sup>/1000 strokes : 3.5  
Check tolerance  
cm<sup>3</sup>/1000S. : 5.5

BOSCH INJ. PUMP TEST SPECIFICATIONS

Note remarks

Refer to Service Info for test and adjustment instructions.  
See microcard(s) W400/...

Edition : 08.12.94  
Test oil : ISO 4113

Combination No. : 0403474025

Injection pump  
Pump designation : PES4MW100/720RS1235  
EP type number : 0413404121

Governor  
Governor design. : RSV350...1200MWOA346  
: -3  
Governor no. : 0420085179

Cust. part No. : 0260740602

Customer-spec. information  
Customer : MB-NFZ  
Motor : OM 364 A  
Power KW : 77.0

TEST BENCH REQUIREMENTS

Test oil inlet  
temp. °C : 40  
Tolerance °C : ± 2.0

Overflow valve : 1419992198

Inlet press. bar : 1.5

Test nozzle holder  
assembly : 0681343009

Opening pressure  
bar : 173.5  
Tolerance bar : ± 1.5

Test lines : 1680750089

Outside diameter : 8.0

x inside diameter : 3.0  
x length mm : 600

REMARKS

Set pneumatic shutoff device to control-rod stop = 0.5...1.5 mm control-rod travel at 4.5 bar atmospheric pressure.

Test hydr. locking device for starting with 800...1200 hPa air pressure.

(A) INJECTION PUMP SETTING VALUES  
Set equal delivery quant.  
per values \_\_\_\_\_

BEGINNING OF DELIVERY

Test pressure bar : 31.0  
Tolerance bar : ± 1.0

Prestroke mm : 3.75  
Tolerance mm : ± 0.05

test only : ± 0.10

Rack travel in mm : 10.50  
Tolerance mm : ± 1.50

Firing order : 1- 3- 4- 2

Phasing : 0-90-180-270  
Tolerance : ± 0.50  
Check  
tolerance °NW : ± 0.75

BASIC SETTING

Rated speed rpm : 1200

Rack travel in mm : 11.55  
Tolerance mm : ± 0.05

Del. quantity  
cm<sup>3</sup>/1000 strokes : 89.0



<hr/>	
Tolerance	
cm3/1000 strokes	: +- 1.0
<hr/>	
Check tolerance	
cm3/1000S.	: +- 3.0
<hr/>	
Spreed	
Tolerance	
cm3/1000 strokes	: 3.5
<hr/>	
Check tolerance	
cm3/1000S.	: 6.0
<hr/>	
Del. quantity	
cm3/1000 strokes	: 12.0
Tolerance	
cm3/1000 strokes	: +- 2.0
Check tolerance	
cm3/1000S.	: +- 4.5
Spreed	
Tolerance	
cm3/1000 strokes	: 3.5
Check tolerance	
cm3/1000S.	: 5.5

(B) SETTING OF INJECTION PUMP WITH GOVERNOR

GUIDE SLEEVE POSITION

control lever	
position degree	: - 3
Rated speed rpm	: 800
<hr/>	
Rack travel in mm	: 0.65
Tolerance mm	: +- 0.35
<hr/>	
governor spring	
pre-tension	
click setting x	: 5.80

FULL LOAD DELIVERY AT FULL LOAD STOP

Rated speed rpm	: 1200
Aneroid pressure	
hPa	: 700
Del. quantity	
cm3/1000 strokes	: 89.0
Tolerance	
cm3/1000 strokes	: +- 1.0
Check tolerance	
cm3/1000S.	: +- 3.0
Spreed	

Tolerance	
cm3/1000 strokes	: 3.5
Check tolerance	
cm3/1000S.	: 6.0

RATED SPEED

control lever	
position degree	: 108.0
tolerance degree	: +- 4.0
<hr/>	
rack travel mm	: 1.00
Tolerance mm	: +- 0.70
Rated speed rpm	: 1450
<hr/>	
rack travel mm	: 4.00
Rated speed rpm	: 1340
<hr/>	
rack travel mm	: 10.50
Rated speed rpm	: 1248
Tolerance 1/min	: +- 8

LOW IDLE

Setting point w/out bumper spring

Rated speed rpm	: 350
rack travel mm	: 6.40
<hr/>	
Testing:	
rack travel mm	: 2.00
Rated speed rpm	: 100
CRT mm min.	: > 19.00

TORQUE CONTROL

Rated speed rpm	: 1200
rack travel mm	: 11.55
Tolerance mm	: +- 0.05
<hr/>	
Rated speed rpm	: 600
rack travel mm	: 12.40
Tolerance mm	: +- 0.10
<hr/>	
Rated speed rpm	: 1000
rack travel mm	: 12.00
Tolerance mm	: +- 0.10

ANEROID/ALTITUDE COMPENSATOR TEST

SETTING

Rated speed rpm : 500  
Pressure hPa : 700  
rack travel mm : 12.40  
Tolerance mm : ± 0.10

MEASUREMENT

Pressure hPa : -  
Rated speed rpm : 500  
rack travel mm : 9.95  
Tolerance mm : ± 0.05

Rated speed rpm : 500

Pressure hPa : 375  
rack travel mm : 11.65  
Tolerance mm : ± 0.15

Pressure hPa : 200  
rack travel mm : 10.45  
Tolerance mm : ± 0.05

Del. quantity  
cm<sup>3</sup>/1000 strokes : 80.0  
Tolerance  
cm<sup>3</sup>/1000 strokes : ± 5.0  
Check tolerance  
cm<sup>3</sup>/1000S. : ± 8.0

---

LOW IDLE

Del. quantity  
cm<sup>3</sup>/1000 strokes : 12.0  
Tolerance  
cm<sup>3</sup>/1000 strokes : ± 2.0  
Check tolerance  
cm<sup>3</sup>/1000S. : ± 4.5  
Spreed  
Tolerance  
cm<sup>3</sup>/1000 strokes : 3.5  
Check tolerance  
cm<sup>3</sup>/1000S. : 5.5

---

FUEL DELIVERY CHARACTERISTICS

Aneroid pressure  
hPa : 700  
Rated speed rpm : 600  
Del. quantity  
cm<sup>3</sup>/1000 strokes : 85.0  
Tolerance  
cm<sup>3</sup>/1000 strokes : ± 1.5  
Check tolerance  
cm<sup>3</sup>/1000S. : ± 4.0  
Spreed  
Tolerance  
cm<sup>3</sup>/1000 strokes : 5.0  
Check tolerance  
cm<sup>3</sup>/1000S. : 7.0

Aneroid pressure  
hPa : -  
Rated speed rpm : 500  
Del. quantity  
cm<sup>3</sup>/1000 strokes : 50.0  
Tolerance  
cm<sup>3</sup>/1000 strokes : ± 1.0  
Check tolerance  
cm<sup>3</sup>/1000S. : ± 3.0

---

STARTING FUEL DELIVERY

Rated speed rpm : 100

BOSCH INJ. PUMP TEST SPECIFICATIONS

Note remarks

Refer to Service Info for test and adjustment instructions.  
See microcard(s) W400/...

Edition : 08.12.94  
Test oil : ISO 4113  
Combination No. : 0403474026  
Injection pump  
Pump designation : PES4MW100/720RS1235  
EP type number : 0413404121  
Governor  
Governor design. : RSV350...1300MWOA346  
: -2  
Governor no. : 0420085177  
Cust. part No. : 0260740702

Customer-spec. information  
Customer : MB-NFZ  
Motor : OM364A  
Power KW : 79.0

TEST BENCH REQUIREMENTS

Test oil inlet  
temp. °C : 40  
Tolerance °C : ± 2.0  
Overflow valve : 1417413047  
Inlet press. bar : 1.5  
Test nozzle holder  
assembly : 0681343009  
Opening pressure  
bar : 173.5  
Tolerance bar : ± 1.5  
Test Lines : 1680750089  
Outside diameter : 8.0

x inside diameter : 3.0  
x length mm : 600

REMARKS

Set pneumatic shutoff device to control-rod stop = 0.5...1.5 mm control-rod travel at 4.5 bar atmospheric pressure.

(A) INJECTION PUMP SETTING VALUES  
Set equal delivery quant.  
per values \_\_\_\_\_

BEGINNING OF DELIVERY

Test pressure bar : 31.0  
Tolerance bar : ± 1.0

Prestroke mm : 3.75  
Tolerance mm : ± 0.05

test only : ± 0.10

Rack travel in mm : 10.50  
Tolerance mm : ± 1.50

Firing order : 1- 3- 4- 2

Phasing : 0-90-180-270  
Tolerance : ± 0.50  
Check  
tolerance °NW : ± 0.75

BASIC SETTING

Rated speed rpm : 1300

Rack travel in mm : 10.85  
Tolerance mm : ± 0.05

Del. quantity  
cm<sup>3</sup>/1000 strokes : 83.0

Tolerance  
cm<sup>3</sup>/1000 strokes : ± 1.0

Check tolerance  
cm<sup>3</sup>/1000S. : +- 3.0

---

Spread  
Tolerance  
cm<sup>3</sup>/1000 strokes : 3.5

---

Check tolerance  
cm<sup>3</sup>/1000S. : 6.0

Del. quantity  
cm<sup>3</sup>/1000 strokes : 12.0  
Tolerance  
cm<sup>3</sup>/1000 strokes : +- 2.0  
Check tolerance  
cm<sup>3</sup>/1000S. : +- 4.5

Spread  
Tolerance  
cm<sup>3</sup>/1000 strokes : 3.5  
Check tolerance  
cm<sup>3</sup>/1000S. : 5.5

(B) SETTING OF INJECTION PUMP  
WITH GOVERNOR

---

GUIDE SLEEVE POSITION

control lever  
position degree : - 3  
Rated speed rpm : 800

Rack travel in mm : 0.65  
Tolerance mm : +- 0.35

governor spring  
pre-tension  
click setting x : 4.00

---

FULL LOAD DELIVERY AT FULL LOAD STOP

Rated speed rpm : 1300  
Aneroid pressure  
hPa : 700  
Del. quantity  
cm<sup>3</sup>/1000 strokes : 83.0  
Tolerance  
cm<sup>3</sup>/1000 strokes : +- 1.0  
Check tolerance  
cm<sup>3</sup>/1000S. : +- 3.0  
Spread  
Tolerance  
cm<sup>3</sup>/1000 strokes : 3.5  
Check tolerance  
cm<sup>3</sup>/1000S. : 6.0

---

RATED SPEED

control lever  
position degree : 110.0  
tolerance degree : +- 4.0

rack travel mm : 1.00  
Tolerance mm : +- 0.70  
Rated speed rpm : 1550

rack travel mm : 4.00  
Rated speed rpm : 1425

rack travel mm : 9.80  
Rated speed rpm : 1345  
Tolerance 1/min : +- 5

---

LOW IDLE

Setting point w/out bumper spring

Rated speed rpm : 350  
rack travel mm : 6.40

Testing:

rack travel mm : 2.00  
Rated speed rpm : 460  
Tolerance 1/min : +- 40

Rated speed rpm : 100

CRT mm min. : > 19.00

---

TORQUE CONTROL

Rated speed rpm : 1300  
rack travel mm : 10.85  
Tolerance mm : +- 0.05

Rated speed rpm : 600  
rack travel mm : 11.75  
Tolerance mm : +- 0.05

Rated speed rpm : 1000  
rack travel mm : 11.75  
Tolerance mm : +- 0.05

Rated speed rpm : 1175  
rack travel mm : 11.15  
Tolerance mm : +- 0.15

---

ANEROID/ALTITUDE  
COMPENSATOR TEST

SETTING

Rated speed rpm : 500  
Pressure hPa : 700  
rack travel mm : 11.75  
Tolerance mm : ± 0.05

MEASUREMENT

Pressure hPa : -  
Rated speed rpm : 500  
rack travel mm : 9.85  
Tolerance mm : ± 0.05

Rated speed rpm : 500

Pressure hPa : 300  
rack travel mm : 11.30  
Tolerance mm : ± 0.15

Pressure hPa : 200  
rack travel mm : 10.80  
Tolerance mm : ± 0.05

---

FUEL DELIVERY CHARACTERISTICS

Aneroid pressure  
hPa : 700  
Rated speed rpm : 600  
Del. quantity  
cm<sup>3</sup>/1000 strokes : 76.5  
Tolerance  
cm<sup>3</sup>/1000 strokes : ± 1.5  
Check tolerance  
cm<sup>3</sup>/1000S. : ± 4.0  
Spreed  
Tolerance  
cm<sup>3</sup>/1000 strokes : 5.0  
Check tolerance  
cm<sup>3</sup>/1000S. : 7.0

Aneroid pressure  
hPa : -  
Rated speed rpm : 500  
Del. quantity  
cm<sup>3</sup>/1000 strokes : 47.0  
Tolerance  
cm<sup>3</sup>/1000 strokes : ± 1.0  
Check tolerance  
cm<sup>3</sup>/1000S. : ± 3.0

---

STARTING FUEL DELIVERY

Rated speed rpm : 100  
Del. quantity  
cm<sup>3</sup>/1000 strokes : 83.0  
Tolerance  
cm<sup>3</sup>/1000 strokes : ± 5.0  
Check tolerance  
cm<sup>3</sup>/1000S. : ± 8.0

---

LOW IDLE

Del. quantity  
cm<sup>3</sup>/1000 strokes : 12.0  
Tolerance  
cm<sup>3</sup>/1000 strokes : ± 2.0  
Check tolerance  
cm<sup>3</sup>/1000S. : ± 4.5  
Spreed  
Tolerance  
cm<sup>3</sup>/1000 strokes : 3.5  
Check tolerance  
cm<sup>3</sup>/1000S. : 5.5

BOSCH INJ. PUMP TEST SPECIFICATIONS

Note remarks

Refer to Service Info for test and adjustment instructions.  
See microcard(s) W400/...

Edition : 08.12.94  
Test oil : ISO 4113  
Combination No. : 0403476069  
Injection pump  
Pump designation : PES6MW100/720RS1129  
EP type number : 0413406121  
Governor  
Governor design. : RSV750...1250MWOA325  
: -2  
Governor no. : 0420085115  
Cust. part No. : 0110748602

Customer-spec. information  
Customer : MB-NFZ  
Motor : OM 366 LA  
Power KW : 146.0

TEST BENCH REQUIREMENTS

Test oil inlet  
temp. °C : 40  
Tolerance °C : +- 2.0  
Overflow valve : 1419992198  
Inlet press. bar : 1.5  
Test nozzle holde  
assembly : 1688901101  
Opening pressure  
bar : 208.5  
Tolerance bar : +- 1.5  
Test lines : 1680750089  
Outside diameter : 8.0

x inside diameter : 3.0  
x length mm : 600

REMARKS

(A) INJECTION PUMP SETTING VALUES  
Set equal delivery quant.  
per values \_\_\_\_\_

BEGINNING OF DELIVERY

Test pressure bar : 31.0  
Tolerance bar : +- 1.0  
Prestroke mm : 3.75  
Tolerance mm : +- 0.05  
test only : +- 0.10  
Rack travel in mm : 10.50  
Tolerance mm : +- 1.50  
Firing order : 1- 5- 3- 6- 2-  
: 4  
Phasing : 0-60-120-180-240  
: -300  
Tolerance : +- 0.50  
Check  
tolerance °NW : +- 0.75

BASIC SETTING

Rated speed rpm : 1230  
Rack travel in mm : 11.55  
Tolerance mm : +- 0.05  
Del. quantity  
cm3/1000 strokes : 97.0  
Tolerance  
cm3/1000 strokes : +- 1.0  
Check tolerance  
cm3/1000S. : +- 3.0  
Speed

Tolerance  
 cm<sup>3</sup>/1000 strokes : 3.5  


---

 Check tolerance  
 cm<sup>3</sup>/1000S. : 6.0  
  
 Del. quantity  
 cm<sup>3</sup>/1000 strokes : 12.0  
 Tolerance  
 cm<sup>3</sup>/1000 strokes : +- 2.0  
 Check tolerance  
 cm<sup>3</sup>/1000S. : +- 4.5  
 Spreed  
 Tolerance  
 cm<sup>3</sup>/1000 strokes : 3.5  
 Check tolerance  
 cm<sup>3</sup>/1000S. : 5.5

(B) SETTING OF INJECTION PUMP  
WITH GOVERNOR

GUIDE SLEEVE POSITION

control lever  
 position degree : - 3  
 Rated speed rpm : 800  
  
 Rack travel in mm : 0.65  
 Tolerance mm : +- 0.35  
  
 governor spring  
 pre-tension  
 click setting x : 2.50

FULL LOAD DELIVERY AT FULL LOAD STOP

Rated speed rpm : 1230  
 Aneroid pressure  
 hPa : -  
 Del. quantity  
 cm<sup>3</sup>/1000 strokes : 97.0  
 Tolerance  
 cm<sup>3</sup>/1000 strokes : +- 1.0  
 Check tolerance  
 cm<sup>3</sup>/1000S. : +- 3.0  
 Spreed  
 Tolerance  
 cm<sup>3</sup>/1000 strokes : 3.5  
 Check tolerance  
 cm<sup>3</sup>/1000S. : 6.0

RATED SPEED

control lever  
 position degree : 98.0  
 tolerance degree : +- 4.0  
  
 rack travel mm : 1.00  
 Tolerance mm : +- 0.70  
 Rated speed rpm : 1350

LOW IDLE

control lever  
 position degree : 78.0  
 tolerance degree : +- 4.0

Testing:

Rated speed rpm : 750  
 rack travel mm : 4.70  
 Tolerance mm : +- 0.10  
  
 rack travel mm : 2.00  
 Rated speed rpm : 780  
 Tolerance 1/min : +- 30  
  
 Rated speed rpm : 100  
  
 CRT mm min. : > 19.00

TORQUE CONTROL

Rated speed rpm : 1230  
 rack travel mm : 11.55  
 Tolerance mm : +- 0.05  
  
 Rated speed rpm : 750  
 rack travel mm : 11.55  
 Tolerance mm : +- 0.10

FUEL DELIVERY CHARACTERISTICS

Aneroid pressure  
 hPa : -  
 Rated speed rpm : 750  
 Del. quantity  
 cm<sup>3</sup>/1000 strokes : 90.0  
 Tolerance  
 cm<sup>3</sup>/1000 strokes : +- 1.5  
 Check tolerance  
 cm<sup>3</sup>/1000S. : +- 4.0  
 Spreed  
 Tolerance  
 cm<sup>3</sup>/1000 strokes : 5.0

Check tolerance  
cm<sup>3</sup>/1000S. : 7.0

---

STARTING FUEL DELIVERY

Rated speed rpm : 100  
Del. quantity  
cm<sup>3</sup>/1000 strokes : 93.0  
Tolerance  
cm<sup>3</sup>/1000 strokes : ± 5.0  
Check tolerance  
cm<sup>3</sup>/1000S. : ± 8.0

---

LOW IDLE

Del. quantity  
cm<sup>3</sup>/1000 strokes : 12.0  
Tolerance  
cm<sup>3</sup>/1000 strokes : ± 2.0  
Check tolerance  
cm<sup>3</sup>/1000S. : ± 4.5  
Spreed  
Tolerance  
cm<sup>3</sup>/1000 strokes : 3.5  
Check tolerance  
cm<sup>3</sup>/1000S. : 5.5



BOSCH INJ. PUMP TEST SPECIFICATIONS

Note remarks

Refer to Service Info for test and adjustment instructions.  
See microcard(s) W400/...

Edition : 07.12.94  
Test oil : ISO 4113

Combination No. : 0403476080

Injection pump  
Pump designation : PES6MW100/720RS1191  
EP type number : 0413406179

Governor  
Governor design. : RSV350...1300MWOA329  
: -6  
Governor no. : 0420085136

Cust. part No. : 0180747702

Customer-spec. information  
Customer : MB-NFZ  
Motor : OM 366 LA  
Power KW : 170.0

TEST BENCH REQUIREMENTS

Test oil inlet  
temp. °C : 40  
Tolerance °C : ± 2.0

Overflow valve : 1419992198

Inlet press. bar : 1.5

Test nozzle holde  
assembly : 1688901101

Opening pressure  
bar : 208.5  
Tolerance bar : ± 1.5

Test lines : 1680750089

Outside diameter : 8.0

x inside diameter : 3.0  
x length mm : 600

REMARKS

Test hydr. locking device for starting  
with 800...1200 hPa air pressure.

(A) INJECTION PUMP SETTING VALUES  
Set equal delivery quant.  
per values \_\_\_\_\_

BEGINNING OF DELIVERY

Test pressure bar : 31.0  
Tolerance bar : ± 1.0

Prestroke mm : 3.55  
Tolerance mm : ± 0.05

test only : ± 0.10

Rack travel in mm : 10.50  
Tolerance mm : ± 1.50

Firing order : 1- 5- 3- 6- 2-  
: 4

Phasing : 0-60-120-180-240  
: -300

Tolerance : ± 0.50  
Check  
tolerance °NW : ± 0.75

BASIC SETTING

Rated speed rpm : 1280

Rack travel in mm : 14.05  
Tolerance mm : ± 0.05

Del. quantity  
cm<sup>3</sup>/1000 strokes : 111.0

Tolerance  
cm<sup>3</sup>/1000 strokes : ± 1.0

Check tolerance  
cm<sup>3</sup>/1000S. : + 3.0

---

Spreed  
Tolerance  
cm<sup>3</sup>/1000 strokes : 3.5

---

Check tolerance  
cm<sup>3</sup>/1000S. : 6.0

Del. quantity  
cm<sup>3</sup>/1000 strokes : 11.0  
Tolerance  
cm<sup>3</sup>/1000 strokes : + 2.0

Check tolerance  
cm<sup>3</sup>/1000S. : + 4.5

Spreed  
Tolerance  
cm<sup>3</sup>/1000 strokes : 3.5  
Check tolerance  
cm<sup>3</sup>/1000S. : 5.0

(B) SETTING OF INJECTION PUMP  
WITH GOVERNOR

---

GUIDE SLEEVE POSITION

control lever  
position degree : - 3  
Rated speed rpm : 800

Rack travel in mm : 0.65  
Tolerance mm : + 0.35

governor spring  
pre-tension  
click setting x : 4.00

---

FULL LOAD DELIVERY AT FULL LOAD STOP

Rated speed rpm : 1280  
Aneroid pressure  
hPa : 1000  
Del. quantity  
cm<sup>3</sup>/1000 strokes : 111.0  
Tolerance  
cm<sup>3</sup>/1000 strokes : + 1.0  
Check tolerance  
cm<sup>3</sup>/1000S. : + 3.0  
Spreed  
Tolerance  
cm<sup>3</sup>/1000 strokes : 3.5  
Check tolerance  
cm<sup>3</sup>/1000S. : 6.0

---

RATED SPEED

control lever  
position degree : 109.0  
tolerance degree : + 4.0

rack travel mm : 1.00  
Tolerance mm : + 0.70  
Rated speed rpm : 1550

---

LOW IDLE

control lever  
position degree : 79.0  
tolerance degree : + 4.0

Testing:

Rated speed rpm : 350  
rack travel mm : 6.10  
Tolerance mm : + 0.10

rack travel mm : 2.00

Rated speed rpm : 100

CRT mm min. : > 19.00

---

TORQUE CONTROL

Rated speed rpm : 1280  
rack travel mm : 14.05  
Tolerance mm : + 0.05

Rated speed rpm : 600  
rack travel mm : 14.05  
Tolerance mm : + 0.10

---

ANEROID/ALTITUDE  
COMPENSATOR TEST

SETTING

Rated speed rpm : 500  
Pressure hPa : 1000  
rack travel mm : 14.05  
Tolerance mm : + 0.05

MEASUREMENT

Pressure hPa : -  
Rated speed rpm : 500

rack travel mm : 10.15  
Tolerance mm :  $\pm$  0.05  
  
Rated speed rpm : 500  
  
Pressure hPa : 500  
rack travel mm : 12.55  
Tolerance mm :  $\pm$  0.15  
  
Pressure hPa : 350  
rack travel mm : 11.35  
Tolerance mm :  $\pm$  0.05

Del. quantity  
cm<sup>3</sup>/1000 strokes : 11.0  
Tolerance  
cm<sup>3</sup>/1000 strokes :  $\pm$  2.0  
Check tolerance  
cm<sup>3</sup>/1000S. :  $\pm$  4.5  
Spreed  
Tolerance  
cm<sup>3</sup>/1000 strokes : 3.5  
Check tolerance  
cm<sup>3</sup>/1000S. : 5.0

---

#### FUEL DELIVERY CHARACTERISTICS

Aneroid pressure  
hPa : 1000  
Rated speed rpm : 600  
Del. quantity  
cm<sup>3</sup>/1000 strokes : 105.0  
Tolerance  
cm<sup>3</sup>/1000 strokes :  $\pm$  1.5  
Check tolerance  
cm<sup>3</sup>/1000S. :  $\pm$  4.0  
Spreed  
Tolerance  
cm<sup>3</sup>/1000 strokes : 5.0  
Check tolerance  
cm<sup>3</sup>/1000S. : 7.0

Aneroid pressure  
hPa : -  
Rated speed rpm : 500  
Del. quantity  
cm<sup>3</sup>/1000 strokes : 35.0  
Tolerance  
cm<sup>3</sup>/1000 strokes :  $\pm$  1.0  
Check tolerance  
cm<sup>3</sup>/1000S. :  $\pm$  3.0

---

#### STARTING FUEL DELIVERY

Rated speed rpm : 100  
Del. quantity  
cm<sup>3</sup>/1000 strokes : 105.0  
Tolerance  
cm<sup>3</sup>/1000 strokes :  $\pm$  5.0  
Check tolerance  
cm<sup>3</sup>/1000S. :  $\pm$  8.0

---

#### LOW IDLE

BOSCH INJ. PUMP TEST SPECIFICATIONS

Note remarks

Refer to Service Info for test and adjustment instructions.  
See microcard(s) W400/...

Edition : 16.12.94  
Test oil : ISO 4113

Combination No. : 0400463121

Injection pump  
Pump designation : PES3A80D410/3RS1324  
EP type number : 0410483017

Governor  
Governor design. : RSV325...900A7C602  
: -4L  
Governor no. : 0420232604

Cust. part No. :

Customer-spec. information  
Customer : KHD  
Motor : F3L912

TEST BENCH REQUIREMENTS

Test oil inlet  
temp. °C : 40  
Tolerance °C : ± 2.0

Overflow valve : 1419992198

Inlet press. bar : 1.5

Test nozzle holde  
assembly : 0681343009

Opening pressure  
bar : 173.5  
Tolerance bar : ± 1.5

Test lines : 1680750014

Outside diameter : 6.0

x inside diameter : 2.0

x length mm : 600

REMARKS

(A) INJECTION PUMP SETTING VALUES  
Set equal delivery quant.  
per values \_\_\_\_\_

BEGINNING OF DELIVERY

Prestroke mm : 1.95  
Tolerance mm : ± 0.05

test only : ± 0.10

Rack travel in mm : 10.50  
Tolerance mm : ± 1.50

Firing order : 1- 3- 2

Phasing : 0-120-240  
Tolerance : ± 0.50  
Check  
tolerance °NW : ± 0.75

BASIC SETTING

Rated speed rpm : 880

Rack travel in mm : 11.20  
Tolerance mm : ± 0.05

Del. quantity  
cm<sup>3</sup>/1000 strokes : 50.5

Tolerance  
cm<sup>3</sup>/1000 strokes : ± 0.5

Check tolerance  
cm<sup>3</sup>/1000S. : ± 2.0

Speed  
Tolerance  
cm<sup>3</sup>/1000 strokes : 2.5

Check tolerance  
cm<sup>3</sup>/1000S. : 4.0

2nd speed rpm : 325  
 Rack travel in mm : 8.60  
 Tolerance mm : ± 0.10  
 Del. quantity  
 cm<sup>3</sup>/1000 strokes : 11.0  
 Tolerance  
 cm<sup>3</sup>/1000 strokes : ± 1.5  
 Check tolerance  
 cm<sup>3</sup>/1000S. : ± 3.5  
 Spread  
 Tolerance  
 cm<sup>3</sup>/1000 strokes : 4.0  
 Check tolerance  
 cm<sup>3</sup>/1000S. : 6.0

(B) SETTING OF INJECTION PUMP  
 WITH GOVERNOR

GUIDE SLEEVE POSITION

control lever  
 position degree : - 3  
 Rated speed rpm : 800  
 Rack travel in mm : 0.50  
 Tolerance mm : ± 0.20

FULL LOAD DELIVERY AT FULL LOAD STOP

Rated speed rpm : 880  
 Aneroid pressure  
 hPa : -  
 Del. quantity  
 cm<sup>3</sup>/1000 strokes : 50.5  
 Tolerance  
 cm<sup>3</sup>/1000 strokes : ± 0.5  
 Check tolerance  
 cm<sup>3</sup>/1000S. : ± 2.0  
 Spread  
 Tolerance  
 cm<sup>3</sup>/1000 strokes : 2.5  
 Check tolerance  
 cm<sup>3</sup>/1000S. : 4.0

RATED SPEED

control lever  
 position degree : 108.0  
 tolerance degree : ± 4.0  
 rack travel mm : 10.20  
 Rated speed rpm : 925

Tolerance 1/min : ± 5  
 rack travel mm : 4.00  
 Rated speed rpm : 960  
 Tolerance 1/min : ± 15  
 rack travel mm : 0.85  
 Tolerance mm : ± 0.55  
 Rated speed rpm : 1100  
 rack travel mm : 4.00  
 Rated speed rpm : 975

LOW IDLE

control lever  
 position degree : 77.0  
 tolerance degree : ± 4.0

Setting point w/out bumper spring

Rated speed rpm : 325  
 rack travel mm : 8.10

Testing:

Rated speed rpm : 325  
 rack travel mm : 8.60  
 Tolerance mm : ± 0.10  
 rack travel mm : 2.00  
 Rated speed rpm : 450  
 Tolerance 1/min : ± 30

TORQUE CONTROL

Rated speed rpm : 880  
 rack travel mm : 11.20  
 Tolerance mm : ± 0.05  
 Rated speed rpm : 500  
 rack travel mm : 11.25  
 Tolerance mm : ± 0.10

BREAKAWAY

Rack travel in mm : 10.20  
 Rated speed rpm : 925  
 Tolerance 1/min : ± 5

---

STARTING FUEL DELIVERY

Rated speed rpm : 100  
rack travel mm : 20.25  
Tolerance mm :  $\pm$  0.75  
Del. quantity  
cm<sup>3</sup>/1000 strokes : 120.0  
Tolerance  
cm<sup>3</sup>/1000 strokes :  $\pm$  7.5  
Check tolerance  
cm<sup>3</sup>/1000S. :  $\pm$  10.0

---

LOW IDLE

Rated speed rpm : 325  
rack travel mm : 8.60  
Tolerance mm :  $\pm$  0.10  
Del. quantity  
cm<sup>3</sup>/1000 strokes : 11.0  
Tolerance  
cm<sup>3</sup>/1000 strokes :  $\pm$  1.5  
Check tolerance  
cm<sup>3</sup>/1000S. :  $\pm$  3.5  
Spreed  
Tolerance  
cm<sup>3</sup>/1000 strokes : 4.0  
Check tolerance  
cm<sup>3</sup>/1000S. : 6.0

# BOSCH INJ. PUMP TEST SPECIFICATIONS

## Note remarks

Refer to Service Info for test and adjustment instructions.  
See microcard(s) W400/...

Edition : 15.12.94  
Test oil : ISO 4113  
Combination No. : 0400463123  
Injection pump  
Pump designation : PES3A80D410/3RS1324  
EP type number : 0410483017  
Governor  
Governor design. : RSV325...1150A8C275L  
Governor no. : 0420232305

Cust. part No. :

## Customer-spec. information

Customer : KHD  
Motor : F3L912

## TEST BENCH REQUIREMENTS

Test oil inlet  
temp. °C : 40  
Tolerance °C : ± 2.0  
Overflow valve : 1419992198  
Inlet press. bar : 1.5  
Test nozzle holder  
assembly : 0681343009  
Opening pressure  
bar : 173.5  
Tolerance bar : ± 1.5  
Test lines : 1680750014  
Outside diameter : 6.0  
x inside diameter : 2.0  
x length mm : 600

## REMARKS

(A) INJECTION PUMP SETTING VALUES  
Set equal delivery quant.  
per values \_\_\_\_\_

## BEGINNING OF DELIVERY

Prestroke mm : 1.95  
Tolerance mm : ± 0.05  
test only : ± 0.10  
Rack travel in mm : 10.50  
Tolerance mm : ± 1.50  
Firing order : 1- 3- 2  
Phasing : 0-120-240  
Tolerance : ± 0.50  
Check  
tolerance °Nw : ± 0.75

## BASIC SETTING

Rated speed rpm : 1150  
Rack travel in mm : 10.65  
Tolerance mm : ± 0.05  
Del. quantity  
cm<sup>3</sup>/1000 strokes : 50.5  
Tolerance  
cm<sup>3</sup>/1000 strokes : ± 0.5  
Check tolerance  
cm<sup>3</sup>/1000S. : ± 2.0  
Speed  
Tolerance  
cm<sup>3</sup>/1000 strokes : 2.0  
Check tolerance  
cm<sup>3</sup>/1000S. : 3.5  
2nd speed rpm : 325

Rack travel in mm : 8.60  
 Tolerance mm : + 0.10  
 Del. quantity  
 cm<sup>3</sup>/1000 strokes : 12.0  
 Tolerance  
 cm<sup>3</sup>/1000 strokes : + 3.0  
 Check tolerance  
 cm<sup>3</sup>/1000S. : + 4.5  
 Spreed  
 Tolerance  
 cm<sup>3</sup>/1000 strokes : 2.0  
 Check tolerance  
 cm<sup>3</sup>/1000S. : 3.0

(B) SETTING OF INJECTION PUMP  
WITH GOVERNOR

GUIDE SLEEVE POSITION

control lever  
 position degree : - 3  
 Rated speed rpm : 800  
 Rack travel in mm : 0.65  
 Tolerance mm : + 0.35

FULL LOAD DELIVERY AT FULL LOAD STOP

Rated speed rpm : 1150  
 Aneroid pressure  
 hPa : -  
 Del. quantity  
 cm<sup>3</sup>/1000 strokes : 50.5  
 Tolerance  
 cm<sup>3</sup>/1000 strokes : + 0.5  
 Check tolerance  
 cm<sup>3</sup>/1000S. : + 2.0  
 Spreed  
 Tolerance  
 cm<sup>3</sup>/1000 strokes : 2.0  
 Check tolerance  
 cm<sup>3</sup>/1000S. : 3.5

RATED SPEED

control lever  
 position degree : 105.0  
 tolerance degree : + 4.0  
 rack travel mm : 9.60  
 Rated speed rpm : 1195  
 Tolerance 1/min : + 5

rack travel mm : 4.00  
 Rated speed rpm : 1235  
 Tolerance 1/min : + 15

rack travel mm : 1.00  
 Tolerance mm : + 0.70  
 Rated speed rpm : 1350

rack travel mm : 4.00  
 Rated speed rpm : 1240

LOW IDLE

control lever  
 position degree : 70.0  
 tolerance degree : + 4.0

Setting point w/out bumper spring

Rated speed rpm : 325  
 rack travel mm : 8.10

Testing:

Rated speed rpm : 325  
 rack travel mm : 8.60  
 Tolerance mm : + 0.10

rack travel mm : 2.00  
 Rated speed rpm : 680  
 Tolerance 1/min : + 30

TORQUE CONTROL

Dimension a mm : 1.30

Rated speed rpm : 1150  
 rack travel mm : 10.65  
 Tolerance mm : + 0.05

Rated speed rpm : 600  
 rack travel mm : 11.95  
 Tolerance mm : + 0.05

Rated speed rpm : 800  
 rack travel mm : 11.35  
 Tolerance mm : + 0.15

BREAKAWAY

Rack travel in mm : 9.60



Rated speed rpm : 1195  
Tolerance 1/min :  $\pm$  5

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STARTING FUEL DELIVERY

Rated speed rpm : 100  
rack travel mm : > 19.00  
Del. quantity  
cm<sup>3</sup>/1000 strokes : 125.0  
Tolerance  
cm<sup>3</sup>/1000 strokes :  $\pm$  7.5  
Check tolerance  
cm<sup>3</sup>/1000S. :  $\pm$  10.0

---

LOW IDLE

Rated speed rpm : 325  
rack travel mm : 8.60  
Tolerance mm :  $\pm$  0.10  
Del. quantity  
cm<sup>3</sup>/1000 strokes : 12.0  
Tolerance  
cm<sup>3</sup>/1000 strokes :  $\pm$  3.0  
Check tolerance  
cm<sup>3</sup>/1000S. :  $\pm$  4.5  
Spreed  
Tolerance  
cm<sup>3</sup>/1000 strokes : 2.0  
Check tolerance  
cm<sup>3</sup>/1000S. : 3.0

BOSCH INJ. PUMP TEST SPECIFICATIONS

Note remarks

Refer to Service Info for test and adjustment instructions. See microcard(s) W400/...

Edition : 21.12.94  
Test oil : ISO 4113

Combination No. : 0400463124

Injection pump  
Pump designation : PES3A80D410/3RS1324  
EP type number : 0410483017

Governor  
Governor design. : RSV325...1150A8C494  
                  : -4L  
Governor no. : 0420232572

Cust. part No. :

Customer-spec. information  
Customer : KHD  
Motor : F3L912

TEST BENCH REQUIREMENTS

Test oil inlet  
temp. °C : 40  
Tolerance °C : ± 2.0

Overflow valve : 1419992198

Inlet press. bar : 1.5

Test nozzle holde  
assembly : 0681343009

Opening pressure  
bar : 173.5  
Tolerance bar : ± 1.5

Test lines : 1680750014

Outside diameter : 6.0

x inside diameter : 2.0

x length mm : 600

REMARKS

(A) INJECTION PUMP SETTING VALUES  
Set equal delivery quant.  
per values \_\_\_\_\_

BEGINNING OF DELIVERY

Prestroke mm : 1.95  
Tolerance mm : ± 0.05

test only : ± 0.10

Rack travel in mm : 10.50  
Tolerance mm : ± 1.50

Firing order : 1- 3- 2

Phasing : 0-120-240  
Tolerance : ± 0.50  
Check  
tolerance °NW : ± 0.75

BEGINNING OF DELIVERY DIFFERENCE

Time to cyl. no. : 1

BASIC SETTING

Rated speed rpm : 1150

Rack travel in mm : 10.60  
Tolerance mm : ± 0.05

Del. quantity  
cm<sup>3</sup>/1000 strokes : 50.5

Tolerance  
cm<sup>3</sup>/1000 strokes : ± 0.5

Check tolerance  
cm<sup>3</sup>/1000S. : ± 2.0

Speed

Tolerance  
cm<sup>3</sup>/1000 strokes : 2.5

---

Check tolerance  
cm<sup>3</sup>/1000S. : 4.0

2nd speed rpm : 325

Rack travel in mm : 8.70  
Tolerance mm : ± 0.10

Del. quantity  
cm<sup>3</sup>/1000 strokes : 12.0  
Tolerance  
cm<sup>3</sup>/1000 strokes : ± 1.5  
Check tolerance  
cm<sup>3</sup>/1000S. : ± 3.5

Speed  
Tolerance  
cm<sup>3</sup>/1000 strokes : 4.0  
Check tolerance  
cm<sup>3</sup>/1000S. : 6.0

(B) SETTING OF INJECTION PUMP  
WITH GOVERNOR

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GUIDE SLEEVE POSITION

control lever  
position degree : - 3  
Rated speed rpm : 800

Rack travel in mm : 0.50  
Tolerance mm : ± 0.20

governor spring  
pre-tension  
click setting x : 5.00

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FULL LOAD DELIVERY AT FULL LOAD STOP

Rated speed rpm : 1150  
Aneroid pressure  
hPa : -  
Del. quantity  
cm<sup>3</sup>/1000 strokes : 50.5  
Tolerance  
cm<sup>3</sup>/1000 strokes : ± 0.5  
Check tolerance  
cm<sup>3</sup>/1000S. : ± 2.0

Speed  
Tolerance  
cm<sup>3</sup>/1000 strokes : 2.5  
Check tolerance  
cm<sup>3</sup>/1000S. : 4.0

---

RATED SPEED

control lever  
position degree : 104.0  
tolerance degree : ± 4.0

rack travel mm : 9.60  
Rated speed rpm : 1195  
Tolerance 1/min : ± 5

rack travel mm : 4.00  
Rated speed rpm : 1235  
Tolerance 1/min : ± 15

rack travel mm : 0.85  
Tolerance mm : ± 0.55  
Rated speed rpm : 1410

rack travel mm : 4.00  
Rated speed rpm : 1260

---

LOW IDLE

control lever  
position degree : 71.0  
tolerance degree : ± 4.0

Setting point w/out bumper spring

Rated speed rpm : 325  
rack travel mm : 8.20

Testing:

Rated speed rpm : 325  
rack travel mm : 8.70  
Tolerance mm : ± 0.10

rack travel mm : 2.00  
Rated speed rpm : 490  
Tolerance 1/min : ± 30

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TORQUE CONTROL

Rated speed rpm : 1150  
rack travel mm : 10.60  
Tolerance mm : ± 0.05

Rated speed rpm : 500  
rack travel mm : 11.65  
Tolerance mm : ± 0.05

Rated speed rpm : 925  
rack travel mm : 11.10

Tolerance mm :  $\pm$  0.10

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BREAKAWAY

Rack travel in mm : 9.60  
Rated speed rpm : 1195  
Tolerance 1/min :  $\pm$  5

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STARTING FUEL DELIVERY

Rated speed rpm : 100  
rack travel mm : 20.25  
Tolerance mm :  $\pm$  0.75  
Del. quantity  
cm<sup>3</sup>/1000 strokes : 125.0  
Tolerance  
cm<sup>3</sup>/1000 strokes :  $\pm$  7.5  
Check tolerance  
cm<sup>3</sup>/1000S. :  $\pm$  10.0

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LOW IDLE

Rated speed rpm : 325  
rack travel mm : 8.70  
Tolerance mm :  $\pm$  0.10  
Del. quantity  
cm<sup>3</sup>/1000 strokes : 12.0  
Tolerance  
cm<sup>3</sup>/1000 strokes :  $\pm$  1.5  
Check tolerance  
cm<sup>3</sup>/1000S. :  $\pm$  3.5  
Spreed  
Tolerance  
cm<sup>3</sup>/1000 strokes : 4.0  
Check tolerance  
cm<sup>3</sup>/1000S. : 6.0

# BOSCH INJ. PUMP TEST SPECIFICATIONS

## Note remarks

Refer to Service Info for test and adjustment instructions.  
See microcard(s) W400/...

Edition : 15.12.94  
Test oil : ISO 4113  
Combination No. : 0400463129  
Injection pump  
Pump designation : PES3A80D410/3RS1324  
EP type number : 0410483017  
Governor  
Governor design. : RSV325...1150A8C657L  
Governor no. : 0420232326

Cust. part No. :

## Customer-spec. information

Customer : KHD  
Motor : F3L912

## TEST BENCH REQUIREMENTS

Test oil inlet temp. °C : 40  
Tolerance °C : ± 2.0  
Overflow valve : 1419992198  
Inlet press. bar : 1.5  
Test nozzle holder assembly : 0681343009  
Opening pressure bar : 173.5  
Tolerance bar : ± 1.5  
Test lines : 1680750014  
Outside diameter : 6.0  
x inside diameter : 2.0  
x length mm : 600

C01

## REMARKS

(A) INJECTION PUMP SETTING VALUES  
Set equal delivery quant.  
per values \_\_\_\_\_

## BEGINNING OF DELIVERY

Prestroke mm : 1.95  
Tolerance mm : ± 0.05  
test only : ± 0.10  
Rack travel in mm : 10.50  
Tolerance mm : ± 1.50  
Firing order : 1- 3- 2  
Phasing : 0-120-240  
Tolerance : ± 0.50  
Check tolerance °NW : ± 0.75

## BEGINNING OF DELIVERY DIFFERENCE

Time to cyl. no. : 1

## BASIC SETTING

Rated speed rpm : 1150  
Rack travel in mm : 10.60  
Tolerance mm : ± 0.05  
Del. quantity cm<sup>3</sup>/1000 strokes : 50.5  
Tolerance cm<sup>3</sup>/1000 strokes : ± 0.5  
Check tolerance cm<sup>3</sup>/1000S. : ± 2.0  
Speed

Tolerance  
 cm<sup>3</sup>/1000 strokes : 2.5  


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 Check tolerance  
 cm<sup>3</sup>/1000S. : 4.0  
 2nd speed rpm : 325  
 Rack travel in mm : 8.80  
 Tolerance mm : ± 0.10  
 Del. quantity  
 cm<sup>3</sup>/1000 strokes : 12.5  
 Tolerance  
 cm<sup>3</sup>/1000 strokes : ± 1.5  
 Check tolerance  
 cm<sup>3</sup>/1000S. : ± 3.5  
 Spreed  
 Tolerance  
 cm<sup>3</sup>/1000 strokes : 4.0  
 Check tolerance  
 cm<sup>3</sup>/1000S. : 6.0

(B) SETTING OF INJECTION PUMP  
WITH GOVERNOR

GUIDE SLEEVE POSITION

control lever  
 position degree : - 3  
 Rated speed rpm : 800  
 Rack travel in mm : 0.50  
 Tolerance mm : ± 0.20

FULL LOAD DELIVERY AT FULL LOAD STOP

Rated speed rpm : 1150  
 Aneroid pressure  
 hPa : -  
 Del. quantity  
 cm<sup>3</sup>/1000 strokes : 50.5  
 Tolerance  
 cm<sup>3</sup>/1000 strokes : ± 0.5  
 Check tolerance  
 cm<sup>3</sup>/1000S. : ± 2.0  
 Spreed  
 Tolerance  
 cm<sup>3</sup>/1000 strokes : 2.5  
 Check tolerance  
 cm<sup>3</sup>/1000S. : 4.0

RATED SPEED

control lever  
 position degree : 104.0  
 tolerance degree : ± 4.0  
 rack travel mm : 9.60  
 Rated speed rpm : 1195  
 Tolerance 1/min : ± 5  
 rack travel mm : 4.00  
 Rated speed rpm : 1235  
 Tolerance 1/min : ± 15  
 rack travel mm : 0.85  
 Tolerance mm : ± 0.55  
 Rated speed rpm : 1350  
 rack travel mm : 4.00  
 Rated speed rpm : 1240

LOW IDLE

control lever  
 position degree : 71.0  
 tolerance degree : ± 4.0

Setting point w/out bumper spring

Rated speed rpm : 325  
 rack travel mm : 8.30

Testing:

Rated speed rpm : 325  
 rack travel mm : 8.80  
 Tolerance mm : ± 0.10

rack travel mm : 2.00  
 Rated speed rpm : 690  
 Tolerance 1/min : ± 30

TORQUE CONTROL

Rated speed rpm : 1150  
 rack travel mm : 10.60  
 Tolerance mm : ± 0.05

Rated speed rpm : 900  
 rack travel mm : 11.15  
 Tolerance mm : ± 0.15

Rated speed rpm : 500  
 rack travel mm : 11.65  
 Tolerance mm : ± 0.05

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BREAKAWAY

Rack travel in mm : 9.60  
Rated speed rpm : 1195  
Tolerance 1/min :  $\pm$  5

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STARTING FUEL DELIVERY

Rated speed rpm : 100  
rack travel mm : 20.25  
Tolerance mm :  $\pm$  0.75  
Del. quantity  
cm<sup>3</sup>/1000 strokes : 120.0  
Tolerance  
cm<sup>3</sup>/1000 strokes :  $\pm$  7.5  
Check tolerance  
cm<sup>3</sup>/1000S. :  $\pm$  10.0

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LOW IDLE

Rated speed rpm : 325  
rack travel mm : 8.80  
Tolerance mm :  $\pm$  0.10  
Del. quantity  
cm<sup>3</sup>/1000 strokes : 12.5  
Tolerance  
cm<sup>3</sup>/1000 strokes :  $\pm$  1.5  
Check tolerance  
cm<sup>3</sup>/1000S. :  $\pm$  3.5  
Speed  
Tolerance  
cm<sup>3</sup>/1000 strokes : 4.0  
Check tolerance  
cm<sup>3</sup>/1000S. : 6.0

# BOSCH INJ. PUMP TEST SPECIFICATIONS

## Note remarks

Refer to Service Info for test and adjustment instructions.  
See microcard(s) W400/...

Edition : 15.12.94  
Test oil : ISO 4113  
Combination No. : 0400464119  
Injection pump  
Pump designation : PES4A75D410/3RS1255  
EP type number : 0410474966  
Governor  
Governor design. : RSV325...1400A8C495L  
Governor no. : 0420232302

Cust. part No. :

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Customer-spec. information  
Customer : KHD  
Motor : F4L912

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## TEST BENCH REQUIREMENTS

Test oil inlet  
temp. °C : 40  
Tolerance °C : ± 2.0  
Overflow valve : 1419992198  
Inlet press. bar : 1.5  
Test nozzle holder  
assembly : 0681343009  
Opening pressure  
bar : 173.5  
Tolerance bar : ± 1.5  
Test lines : 1680750014  
Outside diameter : 6.0  
x inside diameter : 2.0  
x length mm : 600

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## REMARKS

(A) INJECTION PUMP SETTING VALUES  
Set equal delivery quant.  
per values \_\_\_\_\_

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## BEGINNING OF DELIVERY

Prestroke mm : 1.95  
Tolerance mm : ± 0.05  
test only : ± 0.10  
Rack travel in mm : 10.50  
Tolerance mm : ± 1.50  
Firing order : 1- 3- 4- 2  
Phasing : 0-90-180-270  
Tolerance : ± 0.50  
Check  
tolerance °NW : ± 0.75

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## BASIC SETTING

Rated speed rpm : 1400  
Rack travel in mm : 10.20  
Tolerance mm : ± 0.05  
Del. quantity  
cm<sup>3</sup>/1000 strokes : 44.0  
Tolerance  
cm<sup>3</sup>/1000 strokes : ± 0.5  
Check tolerance  
cm<sup>3</sup>/1000S. : ± 2.0  
Speed  
Tolerance  
cm<sup>3</sup>/1000 strokes : 2.5  
Check tolerance  
cm<sup>3</sup>/1000S. : 4.0  
2nd speed rpm : 325



Rack travel in mm : 9.00  
 Tolerance mm : + 0.10  
 Del. quantity  
 cm<sup>3</sup>/1000 strokes : 11.0  
 Tolerance  
 cm<sup>3</sup>/1000 strokes : + 1.5  
 Check tolerance  
 cm<sup>3</sup>/1000S. : + 3.5  
 Spreed  
 Tolerance  
 cm<sup>3</sup>/1000 strokes : 4.0  
 Check tolerance  
 cm<sup>3</sup>/1000S. : 6.0

(B) SETTING OF INJECTION PUMP  
WITH GOVERNOR

GUIDE SLEEVE POSITION

control lever  
 position degree : - 3  
 Rated speed rpm : 800  
 Rack travel in mm : 0.50  
 Tolerance mm : + 0.20  
 governor spring  
 pre-tension  
 click setting x : 5.50

FULL LOAD DELIVERY AT FULL LOAD STOP

Rated speed rpm : 1400  
 Aneroid pressure  
 hPa : -  
 Del. quantity  
 cm<sup>3</sup>/1000 strokes : 44.0  
 Tolerance  
 cm<sup>3</sup>/1000 strokes : + 0.5  
 Check tolerance  
 cm<sup>3</sup>/1000S. : + 2.0  
 Spreed  
 Tolerance  
 cm<sup>3</sup>/1000 strokes : 2.5  
 Check tolerance  
 cm<sup>3</sup>/1000S. : 4.0

RATED SPEED

control lever  
 position degree : 119.0  
 tolerance degree : + 4.0

rack travel mm : 9.20  
 Rated speed rpm : 1445  
 Tolerance 1/min : + 5  
 rack travel mm : 4.00  
 Rated speed rpm : 1485  
 Tolerance 1/min : + 15  
 rack travel mm : 0.85  
 Tolerance mm : + 0.55  
 Rated speed rpm : 1700  
 rack travel mm : 4.00  
 Rated speed rpm : 1495

LOW IDLE

control lever  
 position degree : 70.0  
 tolerance degree : + 4.0

Setting point w/out bumper spring

Rated speed rpm : 325  
 rack travel mm : 8.50

Testing:

Rated speed rpm : 325  
 rack travel mm : 9.00  
 Tolerance mm : + 0.10

rack travel mm : 2.00  
 Rated speed rpm : 700  
 Tolerance 1/min : + 30

TORQUE CONTROL

Rated speed rpm : 1400  
 rack travel mm : 10.20  
 Tolerance mm : + 0.05

Rated speed rpm : 500  
 rack travel mm : 11.55  
 Tolerance mm : + 0.05

Rated speed rpm : 955  
 rack travel mm : 10.90  
 Tolerance mm : + 0.10

BREAKAWAY

Rack travel in mm : 9.20  
Rated speed rpm : 1445  
Tolerance 1/min :  $\pm$  5

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STARTING FUEL DELIVERY

Rated speed rpm : 100  
rack travel mm : 20.25  
Tolerance mm :  $\pm$  0.75  
Del. quantity  
cm<sup>3</sup>/1000 strokes : 110.0  
Tolerance  
cm<sup>3</sup>/1000 strokes :  $\pm$  7.5  
Check tolerance  
cm<sup>3</sup>/1000S. :  $\pm$  10.0

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LOW IDLE

Rated speed rpm : 325  
rack travel mm : 9.00  
Tolerance mm :  $\pm$  0.10  
Del. quantity  
cm<sup>3</sup>/1000 strokes : 11.0  
Tolerance  
cm<sup>3</sup>/1000 strokes :  $\pm$  1.5  
Check tolerance  
cm<sup>3</sup>/1000S. :  $\pm$  3.5  
Spreed  
Tolerance  
cm<sup>3</sup>/1000 strokes : 4.0  
Check tolerance  
cm<sup>3</sup>/1000S. : 6.0

BOSCH INJ. PUMP TEST SPECIFICATIONS

Note remarks

Refer to Service Info for test and adjustment instructions.  
See microcard(s) W400/...

Edition : 15.12.94  
Test oil : ISO 4113  
  
Combination No. : 0400464124  
  
Injection pump  
Pump designation : PES4A80D410/3RS1300  
EP type number : 0410484015  
  
Governor  
Governor design. : RSV325...1150A8C298L  
Governor no. : 0420232308

Cust. part No. :

Customer-spec. information  
Customer : KHD  
Motor : F4L912

TEST BENCH REQUIREMENTS

Test oil inlet  
temp. °C : 40  
Tolerance °C : ± 2.0  
  
Overflow valve : 1419992198  
  
Inlet press. bar : 1.5  
  
Test nozzle holde  
assembly : 0681343009  
  
Opening pressure  
bar : 173.5  
Tolerance bar : ± 1.5  
  
Test lines : 1680750014  
  
Outside diameter : 6.0  
  
x inside diameter : 2.0  
x length mm : 600

REMARKS

(A) INJECTION PUMP SETTING VALUES  
Set equal delivery quant.  
per values \_\_\_\_\_

BEGINNING OF DELIVERY

Prestroke mm : 1.95  
Tolerance mm : ± 0.05  
  
test only : ± 0.10  
  
Rack travel in mm : 10.50  
Tolerance mm : ± 1.50  
  
Firing order : 1- 3- 4- 2  
  
Phasing : 0-90-180-270  
Tolerance : ± 0.50  
Check  
tolerance °NW : ± 0.75

BASIC SETTING

Rated speed rpm : 1150  
  
Rack travel in mm : 10.50  
Tolerance mm : ± 0.05  
  
Del. quantity  
cm<sup>3</sup>/1000 strokes : 50.5  
  
Tolerance  
cm<sup>3</sup>/1000 strokes : ± 0.5  
  
Check tolerance  
cm<sup>3</sup>/1000S. : ± 2.0  
  
Spreed  
Tolerance  
cm<sup>3</sup>/1000 strokes : 2.5  
  
Check tolerance  
cm<sup>3</sup>/1000S. : 4.0  
  
2nd speed rpm : 325

Rack travel in mm : 8.80  
 Tolerance mm : + 0.10  
 Del. quantity  
 cm<sup>3</sup>/1000 strokes : 13.0  
 Tolerance  
 cm<sup>3</sup>/1000 strokes : + 1.5  
 Check tolerance  
 cm<sup>3</sup>/1000S. : + 3.5  
 Spreed  
 Tolerance  
 cm<sup>3</sup>/1000 strokes : 4.0  
 Check tolerance  
 cm<sup>3</sup>/1000S. : 6.0

(B) SETTING OF INJECTION PUMP  
WITH GOVERNOR

GUIDE SLEEVE POSITION

control lever  
 position degree : - 3  
 Rated speed rpm : 800  
  
 Rack travel in mm : 0.50  
 Tolerance mm : + 0.20  
  
 governor spring  
 pre-tension  
 click setting x : 5.50

FULL LOAD DELIVERY AT FULL LOAD STOP

Rated speed rpm : 1150  
 Aneroid pressure  
 hPa : -  
 Del. quantity  
 cm<sup>3</sup>/1000 strokes : 50.5  
 Tolerance  
 cm<sup>3</sup>/1000 strokes : + 0.5  
 Check tolerance  
 cm<sup>3</sup>/1000S. : + 2.0  
 Spreed  
 Tolerance  
 cm<sup>3</sup>/1000 strokes : 2.5  
 Check tolerance  
 cm<sup>3</sup>/1000S. : 4.0

RATED SPEED

control lever  
 position degree : 108.0  
 tolerance degree : + 4.0

C08

rack travel mm : 9.50  
 Rated speed rpm : 1195  
 Tolerance 1/min : + 5

rack travel mm : 4.00  
 Rated speed rpm : 1245  
 Tolerance 1/min : + 15

rack travel mm : 0.85  
 Tolerance mm : + 0.55  
 Rated speed rpm : 1420

rack travel mm : 4.00  
 Rated speed rpm : 1270

LOW IDLE

control lever  
 position degree : 73.0  
 tolerance degree : + 4.0

Setting point w/out bumper spring

Rated speed rpm : 325  
 rack travel mm : 5.50

Testing:

Rated speed rpm : 325  
 rack travel mm : 8.80  
 Tolerance mm : + 0.10

rack travel mm : 2.00  
 Tolerance 1/min : + 30

TORQUE CONTROL

Rated speed rpm : 1150  
 rack travel mm : 10.50  
 Tolerance mm : + 0.05

Rated speed rpm : 500  
 rack travel mm : 11.25  
 Tolerance mm : + 0.05

Rated speed rpm : 880  
 rack travel mm : 10.90  
 Tolerance mm : + 0.10

BREAKAWAY

Rack travel in mm : 9.50  
Rated speed rpm : 1195  
Tolerance 1/min :  $\pm$  5

---

#### STARTING FUEL DELIVERY

Rated speed rpm : 100  
rack travel mm : 20.25  
Tolerance mm :  $\pm$  0.75  
Del. quantity  
cm<sup>3</sup>/1000 strokes : 120.0  
Tolerance  
cm<sup>3</sup>/1000 strokes :  $\pm$  7.5  
Check tolerance  
cm<sup>3</sup>/1000S. :  $\pm$  10.0

---

#### LOW IDLE

Rated speed rpm : 325  
rack travel mm : 8.80  
Tolerance mm :  $\pm$  0.10  
Del. quantity  
cm<sup>3</sup>/1000 strokes : 13.0  
Tolerance  
cm<sup>3</sup>/1000 strokes :  $\pm$  1.5  
Check tolerance  
cm<sup>3</sup>/1000S. :  $\pm$  3.5  
Speed  
Tolerance  
cm<sup>3</sup>/1000 strokes : 4.0  
Check tolerance  
cm<sup>3</sup>/1000S. : 6.0

BOSCH INJ. PUMP TEST SPECIFICATIONS

Note remarks

Refer to Service Info for test and adjustment instructions.  
See microcard(s) W400/...

Edition : 19.12.94  
Test oil : ISO 4113  
  
Combination No. : 0400866207  
  
Injection pump  
Pump designation : PES6A100D320/3RS2691  
EP type number : 9410230025  
  
Governor  
Governor design. : RSV400...1100A0C2190  
                  : -79R  
Governor no. : 0420233318  
  
Cust. part No. : 3921 143

---

Customer-spec. information  
Customer : CDC  
Motor : 6 C 8.3  
Power KW : 129.0

---

TEST BENCH REQUIREMENTS

Test oil inlet  
temp. °C : 40  
Tolerance °C : ± 2.0  
  
Overflow valve : 1417413047  
  
Inlet press. bar : 1.5  
  
Test nozzle holde  
assembly : 1688901101  
  
Opening pressure  
bar : 208.5  
Tolerance bar : ± 1.5  
  
Test lines : 1680750014  
  
Outside diameter : 6.0

x inside diameter : 2.0  
x length mm : 600

---

REMARKS

(A) INJECTION PUMP SETTING VALUES  
Set equal delivery quant.  
per values \_\_\_\_\_

---

BEGINNING OF DELIVERY

Prestroke mm : 2.85  
Tolerance mm : ± 0.05  
  
test only : ± 0.10  
  
Rack travel in mm : 10.50  
  
Firing order : 1- 5- 3- 6- 2-  
                  : 4  
  
Phasing : 0-60-120-180-240  
          : -300  
Tolerance : ± 0.50  
Check  
tolerance °NW : ± 0.75

---

BEGINNING OF DELIVERY DIFFERENCE

Time to cyl. no. : 1

---

BASIC SETTING

Rated speed rpm : 1100  
  
Rack travel in mm : 10.65  
Tolerance mm : ± 0.05  
  
Del. quantity  
cm<sup>3</sup>/1000 strokes : 123.5  
  
Tolerance  
cm<sup>3</sup>/1000 strokes : ± 1.0

---

Check tolerance  
cm<sup>3</sup>/1000S. : + 3.0

---

Spreed  
Tolerance  
cm<sup>3</sup>/1000 strokes : 3.5

---

Check tolerance  
cm<sup>3</sup>/1000S. : 8.0

2nd speed rpm : 400

Rack travel in mm : 5.60

(B) SETTING OF INJECTION PUMP  
WITH GOVERNOR

---

GUIDE SLEEVE POSITION

control lever  
position degree : - 3  
Rated speed rpm : 800

Rack travel in mm : 0.50  
Tolerance mm : + 0.20

governor spring  
pre-tension  
click setting x : 3.00

---

FULL LOAD DELIVERY AT FULL LOAD STOP

Rated speed rpm : 1100  
Aneroid pressure  
hPa : -  
Del. quantity  
cm<sup>3</sup>/1000 strokes : 123.5  
Tolerance  
cm<sup>3</sup>/1000 strokes : + 1.0  
Check tolerance  
cm<sup>3</sup>/1000S. : + 3.0  
Spreed  
Tolerance  
cm<sup>3</sup>/1000 strokes : 3.5  
Check tolerance  
cm<sup>3</sup>/1000S. : 8.0

---

RATED SPEED

control lever  
position degree : 99.0  
tolerance degree : + 4.0

rack travel mm : 9.65  
Rated speed rpm : 1145  
Tolerance 1/min : + 5

rack travel mm : 4.00  
Rated speed rpm : 1205  
Tolerance 1/min : + 15

rack travel mm : 0.85  
Tolerance mm : + 0.55  
Rated speed rpm : 1300

rack travel mm : 4.00  
Rated speed rpm : 1210

---

LOW IDLE

control lever  
position degree : 79.0  
tolerance degree : + 4.0

Setting point w/out bumper spring

Rated speed rpm : 400  
rack travel mm : 5.10

Testing:

Rated speed rpm : 400  
rack travel mm : 5.60  
Tolerance mm : + 0.10

rack travel mm : 2.00  
Rated speed rpm : 500  
Tolerance 1/min : + 30

Rated speed rpm : 100

CRT mm min. : > 19.50

---

TORQUE CONTROL

Rated speed rpm : 1100  
rack travel mm : 10.65  
Tolerance mm : + 0.05

---

BREAKAWAY

Rack travel in mm : 9.65  
Rated speed rpm : 1145  
Tolerance 1/min : + 5

---

STARTING FUEL DELIVERY

Rated speed rpm : 100  
rack travel mm : 20.25  
Tolerance mm :  $\pm$  0.75  
Del. quantity  
cm<sup>3</sup>/1000 strokes : 145.0  
Tolerance  
cm<sup>3</sup>/1000 strokes :  $\pm$  7.5  
Check tolerance  
cm<sup>3</sup>/1000S. :  $\pm$  10.0

---

LOW IDLE

Rated speed rpm : 400  
rack travel mm : 5.60



BOSCH INJ. PUMP TEST SPECIFICATIONS

Note remarks

Refer to Service Info for test and adjustment instructions.  
See microcard(s) W400/...

Edition : 20.12.94  
Test oil : ISO 4113  
Combination No. : 0401446150  
Injection pump  
Pump designation : PE6R130/720RS1506  
EP type number : 0411436002  
Governor  
Governor design. : RQV250...1050R4K  
Governor no. : 0421415003  
Cust. part No. : 865 020 P02

Customer-spec. information  
Customer : PENTA  
Motor : TAMD163 P-A  
Power KW : 553.0

TEST BENCH REQUIREMENTS

Test oil inlet  
temp. °C : 40  
Tolerance °C : + 2.0  
Overflow valve : 2417413078  
Inlet press. bar : 2.5  
Tolerance bar : + 0.1  
Test nozzle holde  
assembly : 1688901105  
Opening pressure  
bar : 208.5  
Tolerance bar : + 1.5  
Test Lines : 1680750089  
Outside diameter : 8.0

x inside diameter : 3.0  
x length mm : 600

REMARKS

(A) INJECTION PUMP SETTING VALUES  
Set equal delivery quant.  
per values \_\_\_\_\_

BEGINNING OF DELIVERY

Test pressure bar : 31.0  
Tolerance bar : + 1.0  
Prestroke mm : 4.45  
Tolerance mm : + 0.05  
test only : + 0.10  
Rack travel in mm : 10.50  
Tolerance mm : + 0.50  
Firing order : 1- 5- 3- 6- 2-  
: 4  
Phasing : 0-60-120-180-240  
: -300  
Tolerance : + 0.30  
Check  
tolerance °NW : + 0.50

BEGINNING OF DELIVERY DIFFERENCE

Time to cyl. no. : 1

BASIC SETTING

Rated speed rpm : 1050  
Rack travel in mm : 14.40  
Tolerance mm : + 0.05  
Del. quantity  
cm<sup>3</sup>/1000 strokes : 450.0

Tolerance  
cm<sup>3</sup>/1000 strokes : ± 2.0

---

Check tolerance  
cm<sup>3</sup>/1000S. : ± 5.0

---

Spreed  
Tolerance  
cm<sup>3</sup>/1000 strokes : 13.0

---

Check tolerance  
cm<sup>3</sup>/1000S. : 17.0

(B) SETTING OF INJECTION PUMP  
WITH GOVERNOR

---

GUIDE SLEEVE TRAVEL

Rated speed rpm : 250  
guide sleeve  
travel mm : 1.26  
Tolerance mm : ± 0.25

Rated speed rpm : 1106  
guide sleeve  
travel mm : 9.18  
Tolerance mm : ± 0.25

Rated speed rpm : 895  
guide sleeve  
travel mm : 6.42  
Tolerance mm : ± 0.25

Rated speed rpm : 310  
guide sleeve  
travel mm : 2.00  
Tolerance mm : ± 0.25

Rated speed rpm : 360  
guide sleeve  
travel mm : 2.41  
Tolerance mm : ± 0.25

Rated speed rpm : 570  
guide sleeve  
travel mm : 3.54  
Tolerance mm : ± 0.25

Rated speed rpm : 1360  
guide sleeve  
travel mm : 13.50  
Tolerance mm : ± 0.50

---

GUIDE SLEEVE POSITION

control lever  
position degree : - 1  
Rated speed rpm : 1205

Rack travel in mm : 11.00  
Tolerance mm : ± 2.50

---

FULL LOAD DELIVERY AT FULL LOAD STOP

Rated speed rpm : 1050  
Aneroid pressure  
hPa : 2200  
Del. quantity  
cm<sup>3</sup>/1000 strokes : 450.0  
Tolerance  
cm<sup>3</sup>/1000 strokes : ± 2.0  
Check tolerance  
cm<sup>3</sup>/1000S. : ± 5.0  
Spreed  
Tolerance  
cm<sup>3</sup>/1000 strokes : 13.0  
Check tolerance  
cm<sup>3</sup>/1000S. : 17.0

---

RATED SPEED

control lever  
position degree : 65.0  
tolerance degree : ± 4.0

control lever  
position degree : 119.0  
tolerance degree : ± 4.0

rack travel mm : 13.40  
Rated speed rpm : 1105  
Tolerance 1/min : ± 5

rack travel mm : 4.00  
Rated speed rpm : 1200  
Tolerance 1/min : ± 15

rack travel mm : 0.50  
Tolerance mm : ± 0.50  
Rated speed rpm : 1300

---

LOW IDLE

control lever  
position degree : 74.0  
tolerance degree : ± 4.0

control lever  
position degree : 20.0

tolerance degree : ± 4.0

Testing:

Rated speed rpm : 250  
rack travel mm : 6.65  
Tolerance mm : ± 0.20

Rated speed rpm : 150

CRT mm min. : > 7.70

---

CONTINUOUS-ACTION CONTROL

Rated speed rpm : 380

---

TORQUE CONTROL

Rated speed rpm : 850  
rack travel mm : 13.20  
Tolerance mm : ± 0.15

Rated speed rpm : 975  
rack travel mm : 14.30  
Tolerance mm : ± 0.20

---

ANEROID/ALTITUDE  
COMPENSATOR TEST

SETTING

Rated speed rpm : 1050  
Pressure hPa : 2200  
rack travel mm : 14.40  
Tolerance mm : ± 0.05

MEASUREMENT

Pressure hPa : -  
Rated speed rpm : 500  
rack travel mm : 8.70  
Tolerance mm : ± 0.15

Rated speed rpm : 1050

Pressure hPa : 1580  
rack travel mm : 5.10  
Tolerance mm : ± 0.10

Pressure hPa : 410  
rack travel mm : 0.25  
Tolerance mm : ± 0.05

---

FUEL DELIVERY CHARACTERISTICS

Aneroid pressure  
hPa : 2200  
Rated speed rpm : 850  
Del. quantity  
cm<sup>3</sup>/1000 strokes : 412.0

Tolerance  
cm<sup>3</sup>/1000 strokes : ± 4.0

Check tolerance  
cm<sup>3</sup>/1000S. : ± 7.0

Spreed  
Tolerance

cm<sup>3</sup>/1000 strokes : 15.0  
Check tolerance

cm<sup>3</sup>/1000S. : 19.0

Aneroid pressure  
hPa : -

Rated speed rpm : 500

Del. quantity  
cm<sup>3</sup>/1000 strokes : 238.0

Tolerance  
cm<sup>3</sup>/1000 strokes : ± 2.0

Check tolerance  
cm<sup>3</sup>/1000S. : ± 5.0

---

BREAKAWAY

Rack travel in mm : 13.40  
Rated speed rpm : 1105  
Tolerance 1/min : ± 5

---

STARTING FUEL DELIVERY

Del. quantity  
cm<sup>3</sup>/1000 strokes : 410.0

Tolerance  
cm<sup>3</sup>/1000 strokes : ± 20.0

Check tolerance  
cm<sup>3</sup>/1000S. : ± 25.0

# BOSCH INJ. PUMP TEST SPECIFICATIONS

## Note remarks

Refer to Service Info for test and adjustment instructions.  
See microcard(s) W400/...

Edition : 20.12.94  
Test oil : ISO 4113

Combination No. : 0401856700

Injection pump  
Pump designation : PE6P110A721RS3101  
EP type number : 0411816725

Governor  
Governor design. : RQ300/1200PA412  
Governor no. : 0421801172

Cust. part No. :

---

Customer spec. information  
Customer : SNF  
Motor : WD615.67  
Power KW : 206.0

## TEST BENCH REQUIREMENTS

Test oil inlet  
temp. °C : 40  
Tolerance °C : ± 2.0

Overflow valve : 1417413025

Inlet press. bar : 1.5

Test nozzle holder  
assembly : 0681343009

Opening pressure  
bar : 173.5  
Tolerance bar : ± 1.5

Test lines : 1680750089

Outside diameter : 8.0

x inside diameter : 3.0

x length mm : 600

---

## REMARKS

(A) INJECTION PUMP SETTING VALUES  
Set equal delivery quant.  
per values \_\_\_\_\_

---

## BEGINNING OF DELIVERY

Test pressure bar : 31.0  
Tolerance bar : ± 1.0

Prestroke mm : 2.85  
Tolerance mm : ± 0.05

test only : ± 0.10

Rack travel in mm : 10.50  
Tolerance mm : ± 1.50

Firing order : 1- 5- 3- 6- 2-  
: 4

Phasing : 0-60-120-180-240  
: -300

Tolerance : ± 0.35  
Check  
tolerance °NW : ± 0.75

---

## BEGINNING OF DELIVERY DIFFERENCE

Time to cyl. no. : 1

---

## BASIC SETTING

Rated speed rpm : 1200

Rack travel in mm : 12.05  
Tolerance mm : ± 0.05

Del. quantity  
cm<sup>3</sup>/1000 strokes : 163.0

Tolerance  
cm<sup>3</sup>/1000 strokes : ± 1.0

Check tolerance  
 cm<sup>3</sup>/1000s. : +- 4.0

---

Spreed  
 Tolerance  
 cm<sup>3</sup>/1000 strokes : 4.0

---

Check tolerance  
 cm<sup>3</sup>/1000s. : 7.5

Del. quantity  
 cm<sup>3</sup>/1000 strokes : 15.0  
 Tolerance  
 cm<sup>3</sup>/1000 strokes : +- 3.0  
 Check tolerance  
 cm<sup>3</sup>/1000s. : +- 5.5  
 Spreed  
 Tolerance  
 cm<sup>3</sup>/1000 strokes : 4.5  
 Check tolerance  
 cm<sup>3</sup>/1000s. : 7.5

(B) SETTING OF INJECTION PUMP  
WITH GOVERNOR

---

GUIDE SLEEVE POSITION

control lever  
 position degree : - 1  
 Rated speed rpm : 600

Rack travel in mm : 16.00  
 Tolerance mm : +- 0.60

---

FULL LOAD DELIVERY AT FULL LOAD STOP

Rated speed rpm : 1200  
 Aneroid pressure  
 hPa : 700  
 Del. quantity  
 cm<sup>3</sup>/1000 strokes : 163.0  
 Tolerance  
 cm<sup>3</sup>/1000 strokes : +- 1.0  
 Check tolerance  
 cm<sup>3</sup>/1000s. : +- 4.0  
 Spreed  
 Tolerance  
 cm<sup>3</sup>/1000 strokes : 4.0  
 Check tolerance  
 cm<sup>3</sup>/1000s. : 7.5

---

RATED SPEED

control lever  
 position degree : 40.0  
 tolerance degree : +- 4.0

rack travel mm : 11.00  
 Rated speed rpm : 1253  
 Tolerance 1/min : +- 8

rack travel mm : 4.00  
 Rated speed rpm : 1340  
 Tolerance 1/min : +- 15

rack travel mm : 0.75  
 Tolerance mm : +- 0.75  
 Rated speed rpm : 1450

---

LOW IDLE

control lever  
 position degree : 14.0  
 tolerance degree : +- 4.0

Testing:

Rated speed rpm : 300  
 rack travel mm : 6.00  
 Tolerance mm : +- 0.10

rack travel mm : 2.00  
 Rated speed rpm : 425  
 Tolerance 1/min : +- 20

Rated speed rpm : 100  
 CRT mm min. : > 7.50

---

TORQUE CONTROL

Dimension a mm : 0.35

Rated speed rpm : 1075  
 rack travel mm : 12.30  
 Tolerance mm : +- 0.10

Rated speed rpm : 985  
 rack travel mm : 12.50  
 Tolerance mm : +- 0.10

Rated speed rpm : 600  
 rack travel mm : 12.75  
 Tolerance mm : +- 0.15

Rated speed rpm : 1200  
 rack travel mm : 12.05  
 Tolerance mm : +- 0.05

Rated speed rpm : 700  
rack travel mm : 12.45  
Tolerance mm : ± 0.05

---

ANEROID/ALTITUDE  
COMPENSATOR TEST

SETTING

Rated speed rpm : 500  
Pressure hPa : 700  
rack travel mm : 12.50  
Tolerance mm : ± 0.10

MEASUREMENT

Pressure hPa : -  
Rated speed rpm : 500  
rack travel mm : 10.20  
Tolerance mm : ± 0.10

Rated speed rpm : 500

Pressure hPa : 330  
rack travel mm : 10.35  
Tolerance mm : ± 0.15

Pressure hPa : 420  
rack travel mm : 11.55  
Tolerance mm : ± 0.05

---

FUEL DELIVERY CHARACTERISTICS

Aneroid pressure  
hPa : 700  
Rated speed rpm : 700  
Del. quantity  
cm<sup>3</sup>/1000 strokes : 167.0  
Tolerance  
cm<sup>3</sup>/1000 strokes : ± 2.0  
Check tolerance  
cm<sup>3</sup>/1000S. : ± 4.0

Aneroid pressure  
hPa : -  
Rated speed rpm : 700  
Del. quantity  
cm<sup>3</sup>/1000 strokes : 121.0  
Tolerance  
cm<sup>3</sup>/1000 strokes : ± 1.0  
Check tolerance  
cm<sup>3</sup>/1000S. : ± 4.0

---

BREAKAWAY

Rack travel in mm : 11.00  
Rated speed rpm : 1253  
Tolerance 1/min : ± 8

---

STARTING FUEL DELIVERY

Rated speed rpm : 100  
rack travel mm : 20.50  
Tolerance mm : ± 0.50  
Del. quantity  
cm<sup>3</sup>/1000 strokes : 220.0  
Tolerance  
cm<sup>3</sup>/1000 strokes : ± 15.0  
Check tolerance  
cm<sup>3</sup>/1000S. : ± 19.0

---

LOW IDLE

Del. quantity  
cm<sup>3</sup>/1000 strokes : 15.0  
Tolerance  
cm<sup>3</sup>/1000 strokes : ± 3.0  
Check tolerance  
cm<sup>3</sup>/1000S. : ± 5.5  
Speed  
Tolerance  
cm<sup>3</sup>/1000 strokes : 4.5  
Check tolerance  
cm<sup>3</sup>/1000S. : 7.5

BOSCH INJ. PUMP TEST SPECIFICATIONS

Note remarks

Refer to Service Info for test and adjustment instructions.  
See microcard(s) W400/...

Edition : 16.12.94  
Test oil : ISO 4113  
Combination No. : 0401876804  
Injection pump  
Pump designation : PE6P120A32ORS3339  
EP type number : 0411826812  
Governor  
Governor design. : RSV325...1400POA590  
Governor no. : 0421833450  
Cust. part No. : 3825199  
                  : -P04 15.12.94

Customer-spec. information  
Customer : PENTA  
Motor : TAMD63 L  
Power KW : 228.0

TEST BENCH REQUIREMENTS

Test oil inlet  
temp. °C : 40  
Tolerance °C : + 2.0  
Overflow valve : 2417413077  
Inlet press. bar : 1.5  
Tolerance bar : + 0.1  
Test nozzle holde  
assembly : 7688901101  
Opening pressure  
bar : 208.5  
Tolerance bar : + 1.5  
Test lines : 1680750008  
Outside diameter : 6.0

x inside diameter : 2.0  
x length mm : 600

REMARKS

(A) INJECTION PUMP SETTING VALUES  
Set equal delivery quant.  
per values \_\_\_\_\_

BEGINNING OF DELIVERY

Test pressure bar : 31.0  
Tolerance bar : + 1.0

Prestroke mm : 3.55  
Tolerance mm : + 0.05

test only : + 0.10

Rack travel in mm : 6.40  
Tolerance mm : + 0.50

Firing order : 1- 5- 3- 6- 2-  
                  : 4

Phasing : 0-60-120-180-240  
          : -300  
Tolerance : + 0.30  
Check  
tolerance °NW : + 0.50

BEGINNING OF DELIVERY DIFFERENCE

Time to cyl. no. : 1

BASIC SETTING

Rated speed rpm : 1000

Rack travel in mm : 8.90  
Tolerance mm : + 0.05

Del. quantity  
cm<sup>3</sup>/1000 strokes : 141.0

Tolerance  
 cm<sup>3</sup>/1000 strokes : + 1.0

---

Check tolerance  
 cm<sup>3</sup>/1000S. : + 4.0

---

Spread  
 Tolerance  
 cm<sup>3</sup>/1000 strokes : 5.0

---

Check tolerance  
 cm<sup>3</sup>/1000S. : 9.0

(B) SETTING OF INJECTION PUMP  
 WITH GOVERNOR

GUIDE SLEEVE POSITION

control lever  
 position degree : - 3  
 Rated speed rpm : 800

Rack travel in mm : 0.55  
 Tolerance mm : + 0.25

governor spring  
 pre-tension  
 click setting x : 5.00

FULL LOAD DELIVERY AT FULL LOAD STOP

Rated speed rpm : 1000  
 Aneroid pressure  
 hPa : 2000  
 Del. quantity  
 cm<sup>3</sup>/1000 strokes : 141.0  
 Tolerance  
 cm<sup>3</sup>/1000 strokes : + 1.0  
 Check tolerance  
 cm<sup>3</sup>/1000S. : + 4.0  
 Spread  
 Tolerance  
 cm<sup>3</sup>/1000 strokes : 5.0  
 Check tolerance  
 cm<sup>3</sup>/1000S. : 9.0

RATED SPEED

control lever  
 position degree : 68.0  
 tolerance degree : + 4.0

control lever  
 position degree : 118.0  
 tolerance degree : + 4.0

rack travel mm : 7.90  
 Rated speed rpm : 1470  
 Tolerance 1/min : + 5

rack travel mm : 4.00  
 Rated speed rpm : 1530  
 Tolerance 1/min : + 15

rack travel mm : 0.85  
 Tolerance mm : + 0.55  
 Rated speed rpm : 1630

LOW IDLE

control lever  
 position degree : 82.0  
 tolerance degree : + 4.0

control lever  
 position degree : 32.0  
 tolerance degree : + 4.0

Setting point w/out bumper spring

Rated speed rpm : 325  
 rack travel mm : 3.70

Testing:

Rated speed rpm : 325  
 rack travel mm : 4.20  
 Tolerance mm : + 0.20

rack travel mm : 2.00  
 Rated speed rpm : 460  
 Tolerance 1/min : + 30

TORQUE CONTROL

Rated speed rpm : 1400  
 rack travel mm : 8.90  
 Tolerance mm : + 0.10

ANEROID/ALTITUDE  
 COMPENSATOR TEST

SETTING

Rated speed rpm : 500  
 Pressure hPa : 2000



rack travel mm : 8.90  
Tolerance mm : ± 0.05

MEASUREMENT

Pressure hPa : -  
Rated speed rpm : 500  
rack travel mm : 6.60  
Tolerance mm : ± 0.10

Rated speed rpm : 500

Pressure hPa : 870  
rack travel mm : 1.90  
Tolerance mm : ± 0.15

Pressure hPa : 510  
rack travel mm : 0.25  
Tolerance mm : ± 0.05

---

FUEL DELIVERY CHARACTERISTICS

Aneroid pressure  
hPa : 2000  
Rated speed rpm : 1400  
Del. quantity  
cm<sup>3</sup>/1000 strokes : 133.0  
Tolerance  
cm<sup>3</sup>/1000 strokes : ± 3.0  
Check tolerance  
cm<sup>3</sup>/1000S. : ± 6.0

Aneroid pressure  
hPa : -  
Rated speed rpm : 500  
Del. quantity  
cm<sup>3</sup>/1000 strokes : 93.0  
Tolerance  
cm<sup>3</sup>/1000 strokes : ± 1.0  
Check tolerance  
cm<sup>3</sup>/1000S. : ± 4.0

---

BREAKAWAY

Rack travel in mm : 7.90  
Rated speed rpm : 1470  
Tolerance 1/min : ± 5

---

STARTING FUEL DELIVERY

Rated speed rpm : 100  
rack travel mm : 12.00  
Tolerance mm : ± 0.25

BOSCH INJ. PUMP TEST SPECIFICATIONS

Note remarks

Refer to Service Info for test and adjustment instructions.  
See microcard(s) W400/...

Edition : 12.12.94  
Test oil : ISO 4113  
Combination No. : 0402036747  
Injection pump  
Pump designation : PES6P110A120RS3296  
EP type number : 0412016738  
Governor  
Governor design. : RQV400...1250PA1014  
: -1K  
Governor no. : 0421815291  
Cust. part No. : 3921837

Customer-spec. information  
Customer : CUMMINS  
Motor : 6BTA-A  
Power KW : 130.0

TEST BENCH REQUIREMENTS

Test oil inlet  
temp. °C : 40  
Tolerance °C : ± 2.0  
Overflow valve : 1419992198  
Inlet press. bar : 1.5  
Test nozzle holder  
assembly : 1688901101  
Opening pressure  
bar : 208.5  
Tolerance bar : ± 1.5  
Test lines : 1680750008  
Outside diameter : 6.0

x inside diameter : 2.0  
x length mm : 600

REMARKS

(A) INJECTION PUMP SETTING VALUES  
Set equal delivery quant.  
per values \_\_\_\_\_

BEGINNING OF DELIVERY

Test pressure bar : 31.0  
Tolerance bar : ± 1.0  
Prestroke mm : 3.00  
Tolerance mm : ± 0.05  
test only : ± 0.10  
Rack travel in mm : 10.50  
Tolerance mm : ± 1.50  
Firing order : 1- 5- 3- 6- 2-  
: 4  
Phasing : 0-60-120-180-240  
: -300  
Tolerance : ± 0.30  
Check  
tolerance °NW : ± 0.50

BEGINNING OF DELIVERY DIFFERENCE

Time to cyl. no. : 1  
S.o.d. blocking  
Barrel no. : 1  
Tolerance : ± 0.10  
Check  
tolerance °NW : ± 0.23

BASIC SETTING

Rated speed rpm : 1250  
Rack travel in mm : 13.05  
Tolerance mm : ± 0.05

Del. quantity  
cm<sup>3</sup>/1000 strokes : 145.0

Tolerance  
cm<sup>3</sup>/1000 strokes : ± 1.0

Check tolerance  
cm<sup>3</sup>/1000S. : ± 3.0

Spreed  
Tolerance  
cm<sup>3</sup>/1000 strokes : 4.0

Check tolerance  
cm<sup>3</sup>/1000S. : 7.5

(B) SETTING OF INJECTION PUMP  
WITH GOVERNOR

GUIDE SLEEVE POSITION

control lever  
position degree : - 1

FULL LOAD DELIVERY AT FULL LOAD STOP

Rated speed rpm : 1250  
Aneroid pressure  
hPa : 1200  
Del. quantity  
cm<sup>3</sup>/1000 strokes : 145.0  
Tolerance  
cm<sup>3</sup>/1000 strokes : ± 1.0  
Check tolerance  
cm<sup>3</sup>/1000S. : ± 3.0  
Spreed  
Tolerance  
cm<sup>3</sup>/1000 strokes : 4.0  
Check tolerance  
cm<sup>3</sup>/1000S. : 7.5

RATED SPEED

control lever  
position degree : 59.0  
tolerance degree : ± 4.0

rack travel mm : 12.00  
Rated speed rpm : 1300  
Tolerance 1/min : ± 5

rack travel mm : 4.00

Rated speed rpm : 1455  
Tolerance 1/min : ± 15

rack travel mm : 0.50  
Tolerance mm : ± 0.50  
Rated speed rpm : 1580

LOW IDLE

control lever  
position degree : 15.0  
tolerance degree : ± 4.0

Testing:

Rated speed rpm : 400  
rack travel mm : 5.30  
Tolerance mm : ± 0.10

Rated speed rpm : 275

CRT mm min. : > 7.00

CONTINUOUS-ACTION CONTROL

Rated speed rpm : 525

TORQUE CONTROL

Rated speed rpm : 1250  
rack travel mm : 13.05  
Tolerance mm : ± 0.05

Rated speed rpm : 800  
rack travel mm : 11.10  
Tolerance mm : ± 0.10

ANEROID/ALTITUDE  
COMPENSATOR TEST

SETTING

Rated speed rpm : 1250  
Pressure hPa : 1200  
rack travel mm : 13.05  
Tolerance mm : ± 0.05

MEASUREMENT

Pressure hPa : -  
Rated speed rpm : 1250  
rack travel mm : 8.50  
Tolerance mm : ± 0.20

Rated speed rpm : 1250  
Pressure hPa : 565  
rack travel mm : 11.80  
Tolerance mm : ± 0.20  
Pressure hPa : 255  
rack travel mm : 9.65  
Tolerance mm : ± 0.05

---

START CUT-OUT

Rated speed rpm : > 100  
Check  
speed 1/min : > 80  
Rated speed rpm : < 290  
Check  
speed 1/min : < 300

---

FUEL DELIVERY CHARACTERISTICS

Aneroid pressure  
hPa : 1200  
Rated speed rpm : 800  
Del. quantity  
cm<sup>3</sup>/1000 strokes : 138.5  
Tolerance  
cm<sup>3</sup>/1000 strokes : ± 2.0  
Check tolerance  
cm<sup>3</sup>/1000S. : ± 4.0  
Spreed  
Tolerance  
cm<sup>3</sup>/1000 strokes : 8.0  
Check tolerance  
cm<sup>3</sup>/1000S. : 12.0

Aneroid pressure  
hPa : -  
Rated speed rpm : 500  
Del. quantity  
cm<sup>3</sup>/1000 strokes : 99.5  
Tolerance  
cm<sup>3</sup>/1000 strokes : ± 2.0  
Check tolerance  
cm<sup>3</sup>/1000S. : ± 4.0

---

BREAKAWAY

Rack travel in mm : 12.00  
Rated speed rpm : 1300  
Tolerance 1/min : ± 5

---

STARTING FUEL DELIVERY

Rated speed rpm : 100  
rack travel mm : 11.40  
Tolerance mm : ± 0.50  
Del. quantity  
cm<sup>3</sup>/1000 strokes : 155.0  
Tolerance  
cm<sup>3</sup>/1000 strokes : ± 20.0  
Check tolerance  
cm<sup>3</sup>/1000S. : ± 25.0

BOSCH INJ. PUMP TEST SPECIFICATIONS

Note remarks

Refer to Service Info for test and adjustment instructions.  
See microcard(s) W400/...

Edition : 16.12.94  
Test oil : ISO 4113  
Combination No. : 0402046789  
Injection pump  
Pump designation : PES6P120A32ORS3139  
EP type number : 0412026718  
Governor  
Governor design. : RQV275...1000PA728  
                  : -3  
Governor no. : 0421813657  
Cust. part No. : CCEP 5070 -116

Customer-spec. information  
Customer : RVI  
Motor : MIDR 062045 H  
Power KW : 227.0

TEST BENCH REQUIREMENTS

Test oil inlet  
temp. °C : 40  
Tolerance °C : ± 2.0  
Overflow valve : 2417413071  
Inlet press. bar : 2.5  
Test nozzle holde  
assembly : 1688901019  
Opening pressure  
bar : 208.5  
Tolerance bar : ± 1.5  
Lube oil : 1409918004  
Test lines : 1680750075

Outside diameter : 8.0  
x inside diameter : 3.0  
x length mm : 1000

REMARKS

Start-of-delivery mark 9° cam angle  
after start of delivery cyl. 1.

(A) INJECTION PUMP SETTING VALUES  
Set equal delivery quant.  
per values \_\_\_\_\_

BEGINNING OF DELIVERY

Test pressure bar : 31.0  
Tolerance bar : ± 1.0  
Prestroke mm : 3.55  
Tolerance mm : ± 0.05  
test only : ± 0.10  
Rack travel in mm : 10.50  
Tolerance mm : ± 1.50  
Firing order : 1- 5- 3- 6- 2-  
                  : 4  
Phasing : 0-60-120-180-240  
          : -300  
Tolerance : ± 0.30  
Check  
tolerance °NW : ± 0.50

BASIC SETTING

Rated speed rpm : 1000  
Rack travel in mm : 11.15  
Tolerance mm : ± 0.05  
Del. quantity  
cm<sup>3</sup>/1000 strokes : 195.0  
Tolerance  
cm<sup>3</sup>/1000 strokes : ± 1.0

Check tolerance  
cm<sup>3</sup>/1000S. : +- 4.0

Spreed  
Tolerance  
cm<sup>3</sup>/1000 strokes : 5.0

Check tolerance  
cm<sup>3</sup>/1000S. : 9.0

(B) SETTING OF INJECTION PUMP  
WITH GOVERNOR

GUIDE SLEEVE POSITION

control lever  
position degree : - 1  
Rated speed rpm : 1170

Rack travel in mm : 16.50  
Tolerance mm : +- 1.30

FULL LOAD DELIVERY AT FULL LOAD STOP

Rated speed rpm : 1000  
Aneroid pressure  
hPa : 1000  
Del. quantity  
cm<sup>3</sup>/1000 strokes : 195.0  
Tolerance  
cm<sup>3</sup>/1000 strokes : +- 1.0  
Check tolerance  
cm<sup>3</sup>/1000S. : +- 4.0  
Spreed  
Tolerance  
cm<sup>3</sup>/1000 strokes : 5.0  
Check tolerance  
cm<sup>3</sup>/1000S. : 9.0

RATED SPEED

control lever  
position degree : 119.0  
tolerance degree : +- 4.0

rack travel mm : -1.00  
Rated speed rpm : 1075  
Tolerance 1/min : +- 5

rack travel mm : -7.15  
Rated speed rpm : 1190  
Tolerance 1/min : +- 15

rack travel mm : -10.65  
Tolerance mm : +- 0.50  
Rated speed rpm : 1300

LOW IDLE

control lever  
position degree : 67.0  
tolerance degree : +- 4.0

Testing:

Rated speed rpm : 275  
rack travel mm : -5.30  
Tolerance mm : +- 0.15

Rated speed rpm : 200

CRT mm max. : < -3.80

CONTINUOUS-ACTION CONTROL

Rated speed rpm : 370

TORQUE CONTROL

Rated speed rpm : 600

ANEROID/ALTITUDE  
COMPENSATOR TEST

SETTING

Rated speed rpm : 500  
Pressure hPa : 1000

MEASUREMENT

Pressure hPa : -  
Rated speed rpm : 500  
rack travel mm : -2.20  
Tolerance mm : +- 0.20

Rated speed rpm : 500

Pressure hPa : 160  
rack travel mm : -1.70  
Tolerance mm : +- 0.10

Pressure hPa : 280  
rack travel mm : -0.75  
Tolerance mm : +- 0.05

---

START CUT-OUT

Rated speed rpm : > 100  
Check  
speed 1/min : > 80  
Rated speed rpm : < 195  
Check  
speed 1/min : < 215

---

FUEL DELIVERY CHARACTERISTICS

Aneroid pressure  
hPa : 1000  
Rated speed rpm : 600  
Del. quantity  
cm<sup>3</sup>/1000 strokes : 195.0  
Tolerance  
cm<sup>3</sup>/1000 strokes : ± 3.0  
Check tolerance  
cm<sup>3</sup>/1000S. : ± 6.0

Aneroid pressure  
hPa : -  
Rated speed rpm : 500  
Del. quantity  
cm<sup>3</sup>/1000 strokes : 103.0  
Tolerance  
cm<sup>3</sup>/1000 strokes : ± 1.0  
Check tolerance  
cm<sup>3</sup>/1000S. : ± 4.0

---

BREAKAWAY

Rack travel in mm : -1.00  
Rated speed rpm : 1075  
Tolerance 1/min : ± 5

---

STARTING FUEL DELIVERY

Rated speed rpm : 100  
Del. quantity  
cm<sup>3</sup>/1000 strokes : 145.0  
Tolerance  
cm<sup>3</sup>/1000 strokes : ± 10.0  
Check tolerance  
cm<sup>3</sup>/1000S. : ± 14.0

# BOSCH INJ. PUMP TEST SPECIFICATIONS

## Note remarks

Refer to Service Info for test and adjustment instructions.  
See microcard(s) W400/...

Edition : 21.12.94  
Test oil : ISO 4113  
Combination No. : 0402646780  
Injection pump  
Pump designation : PE6P120A320LS7872  
EP type number : 0412626912  
Governor  
Governor design. : RQ300/950PA1121  
Governor no. : 0421801701  
Cust. part No. : 04221524KY016517

## Customer spec. information

Customer : KHD  
Motor : BF6M1015/C  
Power KW : 300.0

## TEST BENCH REQUIREMENTS

Test oil inlet  
temp. °C : 40  
Tolerance °C : ± 2.0  
Overflow valve : 1417413025  
Inlet press. bar : 1.5  
Tolerance bar : ± 0.1  
Test nozzle holder  
assembly : 1688901105  
Opening pressure  
bar : 208.5  
Tolerance bar : ± 1.5  
Lube oil : 1409918004  
Test lines : 1680750075

Outside diameter : 8.0  
x inside diameter : 3.0  
x length mm : 1000

## REMARKS

(A) INJECTION PUMP SETTING VALUES  
Set equal delivery quant.  
per values \_\_\_\_\_

## BEGINNING OF DELIVERY

Test pressure bar : 31.0  
Tolerance bar : ± 1.0  
Prestroke mm : 4.05  
Tolerance mm : ± 0.05  
test only : ± 0.10  
Rack travel in mm : 10.50  
Tolerance mm : ± 1.50  
Firing order : 1- 6- 3- 5- 2-  
: 4  
Phasing : 0-60-120-180-240  
: -300  
Tolerance : ± 0.30  
Check  
tolerance °NW : ± 0.75

## BEGINNING OF DELIVERY DIFFERENCE

Time to cyl. no. : 1

## BASIC SETTING

Rated speed rpm : 950  
Rack travel in mm : 14.50  
Tolerance mm : ± 0.05



Del. quantity  
cm<sup>3</sup>/1000 strokes : 362.0

---

Tolerance  
cm<sup>3</sup>/1000 strokes : ± 1.0

---

Check tolerance  
cm<sup>3</sup>/1000S. : ± 4.0

---

Spreed  
Tolerance  
cm<sup>3</sup>/1000 strokes : 5.0

---

Check tolerance  
cm<sup>3</sup>/1000S. : 9.0

2nd speed rpm : 300

Rack travel in mm : 4.80  
Tolerance mm : ± 0.20

Del. quantity  
cm<sup>3</sup>/1000 strokes : 20.0  
Tolerance  
cm<sup>3</sup>/1000 strokes : ± 3.0  
Check tolerance  
cm<sup>3</sup>/1000S. : ± 6.0

Spreed  
Tolerance  
cm<sup>3</sup>/1000 strokes : 8.0  
Check tolerance  
cm<sup>3</sup>/1000S. : 12.0

(B) SETTING OF INJECTION PUMP  
WITH GOVERNOR

GUIDE SLEEVE TRAVEL

Rated speed rpm : 300  
guide sleeve  
travel mm : 2.23  
Tolerance mm : ± 0.10

Rated speed rpm : 1001  
guide sleeve  
travel mm : 6.36  
Tolerance mm : ± 0.10

Rated speed rpm : 950  
guide sleeve  
travel mm : 6.00  
Tolerance mm : ± 0.10

Rated speed rpm : 385  
guide sleeve  
travel mm : 5.22  
Tolerance mm : ± 0.10

Rated speed rpm : 450

guide sleeve  
travel mm : 6.00  
Tolerance mm : ± 0.10

Rated speed rpm : 1150  
guide sleeve  
travel mm : 11.50  
Tolerance mm : ± 0.50

GUIDE SLEEVE POSITION

control lever  
position degree : - 1  
Rated speed rpm : 700

Rack travel in mm : 20.00  
Tolerance mm : ± 0.80

FULL LOAD DELIVERY AT FULL LOAD STOP

Rated speed rpm : 950  
Aneroid pressure  
hPa : 1700

Del. quantity  
cm<sup>3</sup>/1000 strokes : 362.0  
Tolerance  
cm<sup>3</sup>/1000 strokes : ± 1.0  
Check tolerance  
cm<sup>3</sup>/1000S. : ± 4.0

Spreed  
Tolerance  
cm<sup>3</sup>/1000 strokes : 5.0  
Check tolerance  
cm<sup>3</sup>/1000S. : 9.0

RATED SPEED

control lever  
position degree : 101.0  
tolerance degree : ± 4.0

rack travel mm : 13.50  
Rated speed rpm : 995  
Tolerance 1/min : ± 5

rack travel mm : 4.00  
Rated speed rpm : 1070  
Tolerance 1/min : ± 15

rack travel mm : 0.50  
Tolerance mm : ± 0.50  
Rated speed rpm : 1165

LOW IDLE

control lever  
position degree : 75.0  
tolerance degree : ± 4.0

#### Testing:

Rated speed rpm : 300  
rack travel mm : 4.80  
Tolerance mm : ± 0.10

rack travel mm : 2.00  
Rated speed rpm : 355  
Tolerance 1/min : ± 20

Rated speed rpm : 200

CRT mm min. : > 7.10

---

#### TORQUE CONTROL

Rated speed rpm : 950  
rack travel mm : 14.50  
Tolerance mm : ± 0.05

---

#### ANEROID/ALTITUDE COMPENSATOR TEST

##### SETTING

Rated speed rpm : 400  
Pressure hPa : 1700  
rack travel mm : 14.50  
Tolerance mm : ± 0.05

##### MEASUREMENT

Pressure hPa : -  
Rated speed rpm : 400  
rack travel mm : 9.00  
Tolerance mm : ± 0.20

Rated speed rpm : 400

Pressure hPa : 550  
rack travel mm : 10.95  
Tolerance mm : ± 0.20

Pressure hPa : 1000  
rack travel mm : 13.10  
Tolerance mm : ± 0.05

---

#### START CUT-OUT

Rated speed rpm : > 100

DC2

Check  
speed 1/min : > 80  
Rated speed rpm : < 220  
Check  
speed 1/min : < 240

---

#### FUEL DELIVERY CHARACTERISTICS

Aneroid pressure  
hPa : -  
Rated speed rpm : 400  
Del. quantity  
cm<sup>3</sup>/1000 strokes : 240.0  
Tolerance  
cm<sup>3</sup>/1000 strokes : ± 1.0  
Check tolerance  
cm<sup>3</sup>/1000S. : ± 4.0

---

#### BREAKAWAY

Rack travel in mm : 13.50  
Rated speed rpm : 995  
Tolerance 1/min : ± 5

---

#### STARTING FUEL DELIVERY

Rated speed rpm : 100  
rack travel mm : 20.25  
Tolerance mm : ± 0.75  
Del. quantity  
cm<sup>3</sup>/1000 strokes : 200.0  
Tolerance  
cm<sup>3</sup>/1000 strokes : ± 20.0  
Check tolerance  
cm<sup>3</sup>/1000S. : ± 24.0

---

#### LOW IDLE

Rated speed rpm : 300  
rack travel mm : 4.80  
Tolerance mm : ± 0.20  
Del. quantity  
cm<sup>3</sup>/1000 strokes : 20.0  
Tolerance  
cm<sup>3</sup>/1000 strokes : ± 3.0  
Check tolerance  
cm<sup>3</sup>/1000S. : ± 6.0  
Speed  
Tolerance  
cm<sup>3</sup>/1000 strokes : 8.0  
Check tolerance  
cm<sup>3</sup>/1000S. : 12.0

BOSCH INJ. PUMP TEST SPECIFICATIONS

Note remarks

Refer to Service Info for test and adjustment instructions.  
See microcard(s) W400/...

Edition : 20.12.94  
Test oil : ISO 4113

Combination No. : 0402646947

Injection pump  
Pump designation : PE6P130A720RS7225  
EP type number : 0412636817

Governor  
Governor design. : RQV300...950PA1002  
: -1K  
Governor no. : 0421815280

Cust. part No. :

Customer-spec. information  
Customer : IVECO-FRANCE  
Motor : 8210.42.400

TEST BENCH REQUIREMENTS

Test oil inlet  
temp. °C : 40  
Tolerance °C : ± 2.0

Overflow valve : 1417413025

Inlet press. bar : 1.5  
Tolerance bar : ± 0.1

Test nozzle holder  
assembly : 1688901105

Opening pressure  
bar : 208.5  
Tolerance bar : ± 1.5

Test Lines : 1680750075

Outside diameter : 8.0

x inside diameter : 3.0  
x length mm : 1000

REMARKS

(A) INJECTION PUMP SETTING VALUES  
Set equal delivery quant.  
per values \_\_\_\_\_

BEGINNING OF DELIVERY

Test pressure bar : 31.0  
Tolerance bar : ± 1.0

Prestroke mm : 5.05  
Tolerance mm : ± 0.05

test only : ± 0.10

Rack travel in mm : 14.00  
Tolerance mm : ± 0.50

Firing order : 1- 5- 3- 6- 2-  
: 4

Phasing : 0-60-120-180-240  
: -300  
Tolerance : ± 0.30  
Check  
tolerance °NW : ± 0.75

BEGINNING OF DELIVERY DIFFERENCE

Time to cyl. no. : 1  
S.o.d. blocking  
Barrel no. : 1

BASIC SETTING

Rated speed rpm : 900

Rack travel in mm : 13.80  
Tolerance mm : ± 0.05

Del. quantity  
cm<sup>3</sup>/1000 strokes : 314.0

<hr/>	
Tolerance	
cm <sup>3</sup> /1000 strokes	: +- 1.0
<hr/>	
Check tolerance	
cm <sup>3</sup> /1000S.	: +- 4.0
<hr/>	
Spread	
Tolerance	
cm <sup>3</sup> /1000 strokes	: 5.0
<hr/>	
Check tolerance	
cm <sup>3</sup> /1000S.	: 9.0
<hr/>	
2nd speed rpm	: 300
<hr/>	
Rack travel in mm	: 4.90
Tolerance mm	: +- 0.20
Del. quantity	
cm <sup>3</sup> /1000 strokes	: 22.0
Tolerance	
cm <sup>3</sup> /1000 strokes	: +- 3.0
Check tolerance	
cm <sup>3</sup> /1000S.	: +- 6.0
Spread	
Tolerance	
cm <sup>3</sup> /1000 strokes	: 8.0
Check tolerance	
cm <sup>3</sup> /1000S.	: 12.0

(B) SETTING OF INJECTION PUMP  
WITH GOVERNOR

---

GUIDE SLEEVE POSITION

control lever	
position degree	: - 1
Rated speed rpm	: 1240
<hr/>	
Rack travel in mm	: 8.00
Tolerance mm	: +- 2.00

---

FULL LOAD DELIVERY AT FULL LOAD STOP

Rated speed rpm	: 900
Aneroid pressure	
hPa	: 900
Del. quantity	
cm <sup>3</sup> /1000 strokes	: 314.0
Tolerance	
cm <sup>3</sup> /1000 strokes	: +- 1.0
Check tolerance	
cm <sup>3</sup> /1000S.	: +- 4.0
Spread	

Tolerance	
cm <sup>3</sup> /1000 strokes	: 5.0
Check tolerance	
cm <sup>3</sup> /1000S.	: 9.0

---

RATED SPEED

control lever	
position degree	: 115.0
tolerance degree	: +- 4.0
<hr/>	
rack travel mm	: 12.80
Rated speed rpm	: 995
Tolerance 1/min	: +- 5
<hr/>	
rack travel mm	: 4.00
Rated speed rpm	: 1120
Tolerance 1/min	: +- 15
<hr/>	
rack travel mm	: 0.50
Tolerance mm	: +- 0.50
Rated speed rpm	: 1300
<hr/>	
rack travel mm	: 4.00

---

LOW IDLE

control lever	
position degree	: 68.0
tolerance degree	: +- 4.0

Testing:

Rated speed rpm	: 300
rack travel mm	: 4.90
Tolerance mm	: +- 0.10
<hr/>	
Rated speed rpm	: 100
CRT mm min.	: > 6.40

---

CONTINUOUS-ACTION CONTROL

Rated speed rpm	: 400
-----------------	-------

---

TORQUE CONTROL

Rated speed rpm	: 900
rack travel mm	: 13.80
Tolerance mm	: +- 0.05
<hr/>	
Rated speed rpm	: 700
rack travel mm	: 13.65
Tolerance mm	: +- 0.10

Rated speed rpm : 550  
rack travel mm : 12.85  
Tolerance mm :  $\pm$  0.10

Rated speed rpm : 300  
rack travel mm : 12.20  
Tolerance mm :  $\pm$  0.25

---

ANEROID/ALTITUDE  
COMPENSATOR TEST

SETTING

Rated speed rpm : 900  
Pressure hPa : 900  
rack travel mm : 13.80  
Tolerance mm :  $\pm$  0.05

MEASUREMENT

Rated speed rpm : 900  
  
Pressure hPa : 300  
rack travel mm : 10.45  
Tolerance mm :  $\pm$  0.20  
  
Pressure hPa : 580  
rack travel mm : 12.70  
Tolerance mm :  $\pm$  0.05

---

START CUT-OUT

Rated speed rpm :  $>$  100  
Check speed 1/min :  $>$  80  
Rated speed rpm :  $<$  220  
Check speed 1/min :  $<$  240

---

FUEL DELIVERY CHARACTERISTICS

Aneroid pressure hPa : 900  
Rated speed rpm : 550  
Del. quantity cm<sup>3</sup>/1000 strokes : 289.0  
Tolerance cm<sup>3</sup>/1000 strokes :  $\pm$  3.0  
Check tolerance cm<sup>3</sup>/1000S. :  $\pm$  6.0

Aneroid pressure hPa : -  
Rated speed rpm : 500

Del. quantity cm<sup>3</sup>/1000 strokes : 160.0  
Tolerance cm<sup>3</sup>/1000 strokes :  $\pm$  1.0  
Check tolerance cm<sup>3</sup>/1000S. :  $\pm$  4.0

---

BREAKAWAY

Rack travel in mm : 12.80  
Rated speed rpm : 995  
Tolerance 1/min :  $\pm$  5

---

STARTING FUEL DELIVERY

Rated speed rpm : 100  
Del. quantity cm<sup>3</sup>/1000 strokes : 150.0  
Tolerance cm<sup>3</sup>/1000 strokes :  $\pm$  15.0  
Check tolerance cm<sup>3</sup>/1000S. :  $\pm$  19.0

---

LOW IDLE

Rated speed rpm : 300  
rack travel mm : 4.90  
Tolerance mm :  $\pm$  0.20  
Del. quantity cm<sup>3</sup>/1000 strokes : 22.0  
Tolerance cm<sup>3</sup>/1000 strokes :  $\pm$  3.0  
Check tolerance cm<sup>3</sup>/1000S. :  $\pm$  6.0  
Spreed Tolerance cm<sup>3</sup>/1000 strokes : 8.0  
Check tolerance cm<sup>3</sup>/1000S. : 12.0

BOSCH INJ. PUMP TEST SPECIFICATIONS

Note remarks

Refer to Service Info for test and adjustment instructions.  
See microcard(s) W400/...

Edition : 16.12.94  
Test oil : ISO 4113  
Combination No. : 0402646971  
Injection pump  
Pump designation : PE6P120A32ORS7218  
                  : -10Z  
EP type number : 0412626892  
Governor  
Governor design. : RQV275...1000PA939  
                  : -2  
Governor no. : 0421813986  
Cust. part No. : 1249337/5

---

Customer-spec. information  
Customer : DAF  
Motor : WS 242 L

---

TEST BENCH REQUIREMENTS

Test oil inlet  
temp. °C : 40  
Tolerance °C : ± 2.0  
Overflow valve : 1417413025  
Inlet press. bar : 1.5  
Overflow quantity  
min. l/h : 105  
Tolerance l/h : ± 10.0  
Test nozzle holde  
assembly : 1688901105  
Opening pressure  
bar : 208.5  
Tolerance bar : ± 1.5

Test lines : 1680750089  
Outside diameter : 8.0  
x inside diameter : 3.0  
x length mm : 600

---

REMARKS

(A) INJECTION PUMP SETTING VALUES  
Set equal delivery quant.  
per values \_\_\_\_\_

---

BEGINNING OF DELIVERY

Test pressure bar : 31.0  
Tolerance bar : ± 1.0  
Prestroke mm : 5.35  
Tolerance mm : ± 0.05  
test only : ± 0.10  
Rack travel in mm : 14.50  
Tolerance mm : ± 0.50  
Firing order : 1- 5- 3- 6- 2-  
                  : 4  
Phasing : 0-60-120-180-240  
          : -300  
Tolerance : ± 0.30  
Check  
tolerance °NW : ± 0.75

---

BEGINNING OF DELIVERY DIFFERENCE

Time to cyl. no. : 1

---

BASIC SETTING

Rated speed rpm : 850  
Rack travel in mm : 13.95  
Tolerance mm : ± 0.05

Del. quantity  
cm<sup>3</sup>/1000 strokes : 210.0

---

Tolerance  
cm<sup>3</sup>/1000 strokes : ± 1.0

---

Check tolerance  
cm<sup>3</sup>/1000S. : ± 4.0

---

Speed  
Tolerance  
cm<sup>3</sup>/1000 strokes : 5.0

---

Check tolerance  
cm<sup>3</sup>/1000S. : 9.0

2nd speed rpm : 275

Rack travel in mm : 6.10  
Tolerance mm : ± 0.10

Del. quantity  
cm<sup>3</sup>/1000 strokes : 17.0  
Tolerance  
cm<sup>3</sup>/1000 strokes : ± 3.0  
Check tolerance  
cm<sup>3</sup>/1000S. : ± 6.0

Speed  
Tolerance  
cm<sup>3</sup>/1000 strokes : 8.0  
Check tolerance  
cm<sup>3</sup>/1000S. : 12.0

(B) SETTING OF INJECTION PUMP  
WITH GOVERNOR

---

GUIDE SLEEVE POSITION

control lever  
position degree : - 1  
Rated speed rpm : 1130

Rack travel in mm : 13.90  
Tolerance mm : ± 1.30

---

FULL LOAD DELIVERY AT FULL LOAD STOP

Rated speed rpm : 850  
Aneroid pressure  
hPa : 1000  
Del. quantity  
cm<sup>3</sup>/1000 strokes : 210.0  
Tolerance  
cm<sup>3</sup>/1000 strokes : ± 1.0  
Check tolerance  
cm<sup>3</sup>/1000S. : ± 4.0

Speed  
Tolerance  
cm<sup>3</sup>/1000 strokes : 5.0  
Check tolerance  
cm<sup>3</sup>/1000S. : 9.0

---

RATED SPEED

control lever  
position degree : 119.0  
tolerance degree : ± 4.0

rack travel mm : 12.95  
Rated speed rpm : 1042  
Tolerance 1/min : ± 5

rack travel mm : 4.00  
Rated speed rpm : 1160  
Tolerance 1/min : ± 15

rack travel mm : 0.70  
Tolerance mm : ± 0.70  
Rated speed rpm : 1250

---

LOW IDLE

control lever  
position degree : 82.0  
tolerance degree : ± 4.0

Testing:

Rated speed rpm : 275  
rack travel mm : 5.00  
Tolerance mm : ± 0.10

Rated speed rpm : 175  
CRT mm min. : > 7.50

---

CONTINUOUS-ACTION CONTROL

Rated speed rpm : 325

---

TORQUE CONTROL

Rated speed rpm : 850  
rack travel mm : 13.95  
Tolerance mm : ± 0.05

Rated speed rpm : 1000  
rack travel mm : 13.95  
Tolerance mm : ± 0.10

---

ANEROID/ALTITUDE  
COMPENSATOR TEST

SETTING

Rated speed rpm : 600  
Pressure hPa : 1000  
rack travel mm : 13.95  
Tolerance mm :  $\pm$  0.05

MEASUREMENT

Pressure hPa : -  
Rated speed rpm : 600  
rack travel mm : 12.00  
Tolerance mm :  $\pm$  0.10

Rated speed rpm : 600

Pressure hPa : 420  
rack travel mm : 13.35  
Tolerance mm :  $\pm$  0.05

Pressure hPa : 300  
rack travel mm : 12.55  
Tolerance mm :  $\pm$  0.10

---

FUEL DELIVERY CHARACTERISTICS

Aneroid pressure  
hPa : -  
Rated speed rpm : 600  
Del. quantity  
cm<sup>3</sup>/1000 strokes : 153.0  
Tolerance  
cm<sup>3</sup>/1000 strokes :  $\pm$  1.0  
Check tolerance  
cm<sup>3</sup>/1000S. :  $\pm$  4.0

---

BREAKAWAY

Rack travel in mm : 12.95  
Rated speed rpm : 1042  
Tolerance 1/min :  $\pm$  5

---

LOW IDLE

Rated speed rpm : 275

rack travel mm : 6.10  
Tolerance mm :  $\pm$  0.10  
Del. quantity  
cm<sup>3</sup>/1000 strokes : 17.0  
Tolerance  
cm<sup>3</sup>/1000 strokes :  $\pm$  3.0  
Check tolerance  
cm<sup>3</sup>/1000S. :  $\pm$  6.0  
Speed  
Tolerance  
cm<sup>3</sup>/1000 strokes : 8.0  
Check tolerance  
cm<sup>3</sup>/1000S. : 12.0



BOSCH INJ. PUMP TEST SPECIFICATIONS

Note remarks

Refer to Service Info for test and adjustment instructions.  
See microcard(s) W400/...

Edition : 16.12.94  
Test oil : ISO 4113  
Combination No. : 0402646973  
Injection pump  
Pump designation : PE6P12DA32ORS7218  
: -10Z  
EP type number : 0412626892  
Governor  
Governor design. : RQ275/1000PA936-2  
Governor no. : 0421801633  
Cust. part No. : 1249172/5

Customer-spec. information

Customer : DAF  
Motor : WS 242 L  
Power KW : 242.0

TEST BENCH REQUIREMENTS

Test oil inlet  
temp. °C : 40  
Tolerance °C : + 2.0  
Overflow valve : 1417413025  
Inlet press. bar : 1.5  
Tolerance bar : + 0.1  
Overflow quantity  
min. l/h : 110  
Tolerance l/h : + 10.0  
Test nozzle holde  
assembly : 1688901105  
Opening pressure  
bar : 208.5  
Tolerance bar : + 1.5

Test lines : 1680750089  
Outside diameter : 8.0  
x inside diameter : 3.0  
x length mm : 600

REMARKS

(A) INJECTION PUMP SETTING VALUES  
Set equal delivery quant.  
per values \_\_\_\_\_

BEGINNING OF DELIVERY

Test pressure bar : 31.0  
Tolerance bar : + 1.0  
Prestroke mm : 5.35  
Tolerance mm : + 0.05  
test only : + 0.10  
Rack travel in mm : 14.50  
Tolerance mm : + 0.50  
Firing order : 1- 5- 3- 6- 2-  
: 4  
Phasing : 0-60-120-180-240  
: -300  
Tolerance : + 0.30  
Check  
tolerance °NW : + 0.75

BEGINNING OF DELIVERY DIFFERENCE

Time to cyl. no. : 1

BASIC SETTING

Rated speed rpm : 850  
Rack travel in mm : 13.95  
Tolerance mm : + 0.05

<hr/>	
Del. quantity	
cm <sup>3</sup> /1000 strokes	: 210.0
<hr/>	
Tolerance	
cm <sup>3</sup> /1000 strokes	: ± 1.0
<hr/>	
Check tolerance	
cm <sup>3</sup> /1000S.	: ± 4.0
<hr/>	
Spreed	
Tolerance	
cm <sup>3</sup> /1000 strokes	: 5.0
<hr/>	
Check tolerance	
cm <sup>3</sup> /1000S.	: 9.0
<hr/>	
2nd speed rpm	: 275
<hr/>	
Rack travel in mm	: 6.10
Tolerance mm	: ± 0.10
Del. quantity	
cm <sup>3</sup> /1000 strokes	: 17.0
Tolerance	
cm <sup>3</sup> /1000 strokes	: ± 3.0
Check tolerance	
cm <sup>3</sup> /1000S.	: ± 6.0
Spreed	
Tolerance	
cm <sup>3</sup> /1000 strokes	: 8.0
Check tolerance	
cm <sup>3</sup> /1000S.	: 12.0

(B) SETTING OF INJECTION PUMP WITH GOVERNOR

GUIDE SLEEVE TRAVEL

Rated speed rpm	: 275
guide sleeve	
travel mm	: 1.64
Tolerance mm	: ± 0.10
<hr/>	
Rated speed rpm	: 1047
guide sleeve	
travel mm	: 6.43
Tolerance mm	: ± 0.10
<hr/>	
Rated speed rpm	: 1000
guide sleeve	
travel mm	: 6.00
Tolerance mm	: ± 0.10
<hr/>	
Rated speed rpm	: 356
guide sleeve	
travel mm	: 4.13
Tolerance mm	: ± 0.10

Rated speed rpm	: 450
guide sleeve	
travel mm	: 6.00
Tolerance mm	: ± 0.10

Rated speed rpm	: 1220
guide sleeve	
travel mm	: 11.50
Tolerance mm	: ± 0.50

GUIDE SLEEVE POSITION

control lever	
position degree	: - 1
Rated speed rpm	: 550
<hr/>	
Rack travel in mm	: 16.00
Tolerance mm	: ± 0.60

FULL LOAD DELIVERY AT FULL LOAD STOP

Rated speed rpm	: 850
Aneroid pressure	
hPa	: 1000
Del. quantity	
cm <sup>3</sup> /1000 strokes	: 210.0
Tolerance	
cm <sup>3</sup> /1000 strokes	: ± 1.0
Check tolerance	
cm <sup>3</sup> /1000S.	: ± 4.0
Spreed	
Tolerance	
cm <sup>3</sup> /1000 strokes	: 5.0
Check tolerance	
cm <sup>3</sup> /1000S.	: 9.0

RATED SPEED

control lever	
position degree	: 109.0
tolerance degree	: ± 4.0
<hr/>	
rack travel mm	: 12.95
Rated speed rpm	: 1042
Tolerance 1/min	: ± 8
<hr/>	
rack travel mm	: 4.00
Rated speed rpm	: 1135
Tolerance 1/min	: ± 15
<hr/>	
rack travel mm	: 0.70
Tolerance mm	: ± 0.70
Rated speed rpm	: 1250

---

LOW IDLE

control lever  
position degree : 73.0  
tolerance degree : ± 4.0

Testing:

Rated speed rpm : 275  
rack travel mm : 5.00  
Tolerance mm : ± 0.10

rack travel mm : 2.00  
Rated speed rpm : 350  
Tolerance 1/min : ± 20

Rated speed rpm : 175

CRT mm min. : > 6.50

---

TORQUE CONTROL

Rated speed rpm : 850  
rack travel mm : 13.95  
Tolerance mm : ± 0.05

Rated speed rpm : 1000  
rack travel mm : 13.95  
Tolerance mm : ± 0.10

---

ANEROID/ALTITUDE  
COMPENSATOR TEST

SETTING

Rated speed rpm : 600  
Pressure hPa : 1000  
rack travel mm : 13.95  
Tolerance mm : ± 0.05

MEASUREMENT

Pressure hPa : -  
Rated speed rpm : 600  
rack travel mm : 12.00  
Tolerance mm : ± 0.10

Rated speed rpm : 600

Pressure hPa : 420  
rack travel mm : 13.35  
Tolerance mm : ± 0.05

Pressure hPa : 300

rack travel mm : 12.55  
Tolerance mm : ± 0.10

---

FUEL DELIVERY CHARACTERISTICS

Aneroid pressure  
hPa : -  
Rated speed rpm : 600  
Del. quantity  
cm<sup>3</sup>/1000 strokes : 153.0  
Tolerance  
cm<sup>3</sup>/1000 strokes : ± 1.0  
Check tolerance  
cm<sup>3</sup>/1000S. : ± 4.0

---

BREAKAWAY

Rack travel in mm : 12.95  
Rated speed rpm : 1042  
Tolerance 1/min : ± 8

---

LOW IDLE

Rated speed rpm : 275  
rack travel mm : 6.10  
Tolerance mm : ± 0.10  
Del. quantity  
cm<sup>3</sup>/1000 strokes : 17.0  
Tolerance  
cm<sup>3</sup>/1000 strokes : ± 3.0  
Check tolerance  
cm<sup>3</sup>/1000S. : ± 6.0  
Speed  
Tolerance  
cm<sup>3</sup>/1000 strokes : 8.0  
Check tolerance  
cm<sup>3</sup>/1000S. : 12.0

BOSCH INJ. PUMP TEST SPECIFICATIONS

Note remarks

Refer to Service Info for test and adjustment instructions.  
See microcard(s) W400/...

Edition : 16.12.94  
Test oil : ISO 4113  
Combination No. : 0402646988  
Injection pump  
Pump designation : PE6P120A32ORS7230  
: -10X  
EP type number : 0412626899  
Governor  
Governor design. : RQV250...1000PA990K  
Governor no. : 0421815274  
Cust. part No. : 1250705/4

Customer-spec. information

Customer : DAF  
Motor : WS 295 L  
Power KW : 295.0

TEST BENCH REQUIREMENTS

Test oil inlet  
temp. °C : 40  
Tolerance °C : ± 2.0  
Overflow valve : 1417413025  
Inlet press. bar : 1.5  
Tolerance bar : ± 0.1  
Test nozzle holder  
assembly : 1688901105  
Opening pressure  
bar : 208.5  
Tolerance bar : ± 1.5  
Test lines : 1680750089  
Outside diameter : 8.0

x inside diameter : 3.0  
x length mm : 600

REMARKS

(A) INJECTION PUMP SETTING VALUES  
Set equal delivery quant.  
per values \_\_\_\_\_

BEGINNING OF DELIVERY

Test pressure bar : 31.0  
Tolerance bar : ± 1.0  
Prestroke mm : 5.05  
Tolerance mm : ± 0.05  
test only : ± 0.10  
Rack travel in mm : 10.50  
Tolerance mm : ± 1.50  
Firing order : 1- 5- 3- 6- 2-  
: 4  
Phasing : 0-60-120-180-240  
: -300  
Tolerance : ± 0.30  
Check  
tolerance °NW : ± 0.75

BEGINNING OF DELIVERY DIFFERENCE

Time to cyl. no. : 1

BASIC SETTING

Rated speed rpm : 980  
Rack travel in mm : 13.95  
Tolerance mm : ± 0.05  
Del. quantity  
cm<sup>3</sup>/1000 strokes : 259.0

Tolerance cm <sup>3</sup> /1000 strokes	: +- 1.0
<hr/>	
Check tolerance cm <sup>3</sup> /1000S.	: +- 4.0
<hr/>	
Spreed Tolerance cm <sup>3</sup> /1000 strokes	: 5.0
<hr/>	
Check tolerance cm <sup>3</sup> /1000S.	: 9.0
2nd speed rpm	: 250
Rack travel in mm	: 6.10
Tolerance mm	: +- 0.10
Del. quantity cm <sup>3</sup> /1000 strokes	: 17.0
Tolerance cm <sup>3</sup> /1000 strokes	: +- 3.0
Check tolerance cm <sup>3</sup> /1000S.	: +- 6.0
Spreed Tolerance cm <sup>3</sup> /1000 strokes	: 8.0
Check tolerance cm <sup>3</sup> /1000S.	: 12.0

(B) SETTING OF INJECTION PUMP  
WITH GOVERNOR

GUIDE SLEEVE TRAVEL

Rated speed rpm guide sleeve travel mm	: 250
Tolerance mm	: +- 0.10
Rated speed rpm guide sleeve travel mm	: 1038
Tolerance mm	: +- 0.10
Rated speed rpm guide sleeve travel mm	: 686
Tolerance mm	: +- 0.25
Rated speed rpm guide sleeve travel mm	: 284
Tolerance mm	: +- 0.25
Rated speed rpm guide sleeve travel mm	: 334
Tolerance mm	: +- 0.25

Rated speed rpm guide sleeve travel mm	: 390
Tolerance mm	: +- 0.25
Rated speed rpm guide sleeve travel mm	: 1310
Tolerance mm	: +- 0.50

GUIDE SLEEVE POSITION

control lever position degree	: - 1
Rated speed rpm	: 1130
Rack travel in mm	: 13.50
Tolerance mm	: +- 1.30

FULL LOAD DELIVERY AT FULL LOAD STOP

Rated speed rpm Aneroid pressure hPa	: 980
Del. quantity cm <sup>3</sup> /1000 strokes	: 1500
Tolerance cm <sup>3</sup> /1000 strokes	: +- 1.0
Check tolerance cm <sup>3</sup> /1000S.	: +- 4.0
Spreed Tolerance cm <sup>3</sup> /1000 strokes	: 5.0
Check tolerance cm <sup>3</sup> /1000S.	: 9.0

RATED SPEED

control lever position degree	: 120.0
tolerance degree	: +- 4.0
rack travel mm	: 12.95
Rated speed rpm	: 1032
Tolerance 1/min	: +- 5
rack travel mm	: 4.00
Rated speed rpm	: 1150
Tolerance 1/min	: +- 15
rack travel mm	: 0.70
Tolerance mm	: +- 0.70
Rated speed rpm	: 1275

---

LOW IDLE

control lever  
position degree : 70.0  
tolerance degree : ± 4.0

Testing:

Rated speed rpm : 250  
rack travel mm : 5.20  
Tolerance mm : ± 0.10

rack travel mm : 2.00  
Rated speed rpm : 350  
Tolerance 1/min : ± 20

Rated speed rpm : 150  
CRT mm min. : > 7.00

---

TORQUE CONTROL

Rated speed rpm : 980  
rack travel mm : 13.95  
Tolerance mm : ± 0.05

Rated speed rpm : 600  
rack travel mm : 12.35  
Tolerance mm : ± 0.05

Rated speed rpm : 825  
rack travel mm : 13.40  
Tolerance mm : ± 0.10

Rated speed rpm : 400  
rack travel mm : 12.20  
Tolerance mm : ± 0.10

---

ANEROID/ALTITUDE  
COMPENSATOR TEST

SETTING

Rated speed rpm : 980  
Pressure hPa : 1500  
rack travel mm : 13.95  
Tolerance mm : ± 0.05

MEASUREMENT

Pressure hPa : -  
Rated speed rpm : 980  
rack travel mm : 8.90  
Tolerance mm : ± 0.10

Rated speed rpm : 980  
Pressure hPa : 730  
rack travel mm : 12.65  
Tolerance mm : ± 0.05

Pressure hPa : 300  
rack travel mm : 9.80  
Tolerance mm : ± 0.10

---

FUEL DELIVERY CHARACTERISTICS

Aneroid pressure  
hPa : 1500  
Rated speed rpm : 600  
Del. quantity  
cm<sup>3</sup>/1000 strokes : 257.0  
Tolerance  
cm<sup>3</sup>/1000 strokes : ± 2.0  
Check tolerance  
cm<sup>3</sup>/1000S. : ± 5.0

Speed  
Tolerance  
cm<sup>3</sup>/1000 strokes : 8.0  
Check tolerance  
cm<sup>3</sup>/1000S. : 12.0

Aneroid pressure  
hPa : -  
Rated speed rpm : 600  
Del. quantity  
cm<sup>3</sup>/1000 strokes : 165.0  
Tolerance  
cm<sup>3</sup>/1000 strokes : ± 1.0  
Check tolerance  
cm<sup>3</sup>/1000S. : ± 4.0

---

BREAKAWAY

Rack travel in mm : 12.95  
Rated speed rpm : 1032  
Tolerance 1/min : ± 5

---

LOW IDLE

Rated speed rpm : 250  
rack travel mm : 6.10  
Tolerance mm : ± 0.10  
Del. quantity  
cm<sup>3</sup>/1000 strokes : 17.0

Tolerance  
cm<sup>3</sup>/1000 strokes : ± 3.0  
Check tolerance  
cm<sup>3</sup>/1000S. : ± 6.0  
Spreed  
Tolerance  
cm<sup>3</sup>/1000 strokes : 8.0  
Check tolerance  
cm<sup>3</sup>/1000S. : 12.0



BOSCH INJ. PUMP TEST SPECIFICATIONS

Note remarks

Refer to Service Info for test and adjustment instructions.  
See microcard(s) W400/...

Edition : 12.12.94  
Test oil : ISO 4113  
Combination No. : 0402646992  
Injection pump  
Pump designation : PE6P120A720RS7021  
EP type number : 0412626869  
Governor  
Governor design. : RQ200/1000PA1036  
Governor no. : 0421801649

Cust. part No. : 1363610

---

Customer-spec. information  
Customer : SCANIA  
Motor : DSI11E01

---

TEST BENCH REQUIREMENTS

Test oil inlet  
temp. °C : 40  
Tolerance °C : ± 2.0  
Overflow valve : 1417413025  
Inlet press. bar : 2.5  
Tolerance bar : ± 0.1  
Test nozzle holde  
assembly : 1688901104  
Opening pressure  
bar : 251.5  
Tolerance bar : ± 1.5  
Test lines : 1680750008  
Outside diameter : 6.0  
x inside diameter : 2.0

x length mm : 600

---

REMARKS

Check and set without ROBO diaphragam

(A) INJECTION PUMP SETTING VALUES  
Set equal delivery quant.  
per values \_\_\_\_\_

---

BEGINNING OF DELIVERY

Test pressure bar : 31.0  
Tolerance bar : ± 1.0

Prestroke mm : 5.05  
Tolerance mm : ± 0.05

test only : ± 0.10

Rack travel in mm : 10.50  
Tolerance mm : ± 1.50

Firing order : 1- 5- 3- 6- 2-  
: 4

Phasing : 0-60-120-180-240  
: -300  
Tolerance : ± 0.30  
Check  
tolerance °NW : ± 0.75

---

BEGINNING OF DELIVERY DIFFERENCE

Time to cyl. no. : 1

---

BASIC SETTING

Rated speed rpm : 700

Rack travel in mm : 13.45  
Tolerance mm : ± 0.05

---

Del. quantity  
cm<sup>3</sup>/1000 strokes : 258.0

---



Tolerance  
 cm<sup>3</sup>/1000 strokes : ± 1.0

---

Check tolerance  
 cm<sup>3</sup>/1000S. : ± 4.0

---

Speed  
 Tolerance  
 cm<sup>3</sup>/1000 strokes : 8.0

---

Check tolerance  
 cm<sup>3</sup>/1000S. : 12.0

2nd speed rpm : 250

Rack travel in mm : 6.30  
 Tolerance mm : ± 0.30  
 Del. quantity  
 cm<sup>3</sup>/1000 strokes : 31.0  
 Tolerance  
 cm<sup>3</sup>/1000 strokes : ± 3.0  
 Check tolerance  
 cm<sup>3</sup>/1000S. : ± 6.0  
 Speed  
 Tolerance  
 cm<sup>3</sup>/1000 strokes : 4.0  
 Check tolerance  
 cm<sup>3</sup>/1000S. : 8.0

(B) SETTING OF INJECTION PUMP  
 WITH GOVERNOR

GUIDE SLEEVE TRAVEL

Rated speed rpm : 250  
 guide sleeve  
 travel mm : 1.08  
 Tolerance mm : ± 0.10

Rated speed rpm : 1054  
 guide sleeve  
 travel mm : 4.39  
 Tolerance mm : ± 0.10

Rated speed rpm : 1000  
 guide sleeve  
 travel mm : 4.00  
 Tolerance mm : ± 0.10

Rated speed rpm : 353  
 guide sleeve  
 travel mm : 3.46  
 Tolerance mm : ± 0.10

Rated speed rpm : 420  
 guide sleeve  
 travel mm : 4.00  
 Tolerance mm : ± 0.10

Rated speed rpm : 1460  
 guide sleeve  
 travel mm : 11.50  
 Tolerance mm : ± 0.50

GUIDE SLEEVE POSITION

Rated speed rpm : 600  
 Rack travel in mm : 16.50  
 Tolerance mm : ± 1.30

FULL LOAD DELIVERY AT FULL LOAD STOP

Rated speed rpm : 700  
 Aneroid pressure  
 hPa : -  
 Del. quantity  
 cm<sup>3</sup>/1000 strokes : 258.0  
 Tolerance  
 cm<sup>3</sup>/1000 strokes : ± 1.0  
 Check tolerance  
 cm<sup>3</sup>/1000S. : ± 4.0  
 Speed  
 Tolerance  
 cm<sup>3</sup>/1000 strokes : 8.0  
 Check tolerance  
 cm<sup>3</sup>/1000S. : 12.0

RATED SPEED

control lever  
 position degree : 43.0  
 tolerance degree : ± 4.0

control lever  
 position degree : 98.0  
 tolerance degree : ± 4.0

rack travel mm : 12.40  
 Rated speed rpm : 1045  
 Tolerance 1/min : ± 5

rack travel mm : 4.00  
 Rated speed rpm : 1200  
 Tolerance 1/min : ± 15

rack travel mm : 0.50  
 Tolerance mm : ± 0.50  
 Rated speed rpm : 1300

LOW IDLE

control lever  
position degree : 66.0  
tolerance degree : ± 4.0

control lever  
position degree : 11.0  
tolerance degree : ± 4.0

Testing:

Rated speed rpm : 250  
rack travel mm : 6.30  
Tolerance mm : ± 0.10

rack travel mm : 2.00  
Rated speed rpm : 350  
Tolerance 1/min : ± 30

Rated speed rpm : 150

CRT mm min. : > 8.50

---

TORQUE CONTROL

Rated speed rpm : 1000  
rack travel mm : 13.45  
Tolerance mm : ± 0.05

---

ANEROID/ALTITUDE  
COMPENSATOR TEST

SETTING

Rated speed rpm : 500  
Pressure hPa : 1500  
rack travel mm : 13.45  
Tolerance mm : ± 0.05

MEASUREMENT

Pressure hPa : -  
Rated speed rpm : 500  
rack travel mm : 12.90  
Tolerance mm : ± 0.20

Rated speed rpm : 500

Pressure hPa : 235  
rack travel mm : 13.25  
Tolerance mm : ± 0.05

---

FUEL DELIVERY CHARACTERISTICS

Aneroid pressure  
hPa : -  
Rated speed rpm : 1000  
Del. quantity  
cm<sup>3</sup>/1000 strokes : 227.0  
Tolerance  
cm<sup>3</sup>/1000 strokes : ± 4.0  
Check tolerance  
cm<sup>3</sup>/1000S. : ± 6.0

Aneroid pressure  
hPa : -  
Rated speed rpm : 500  
Del. quantity  
cm<sup>3</sup>/1000 strokes : 268.0  
Tolerance  
cm<sup>3</sup>/1000 strokes : ± 1.0  
Check tolerance  
cm<sup>3</sup>/1000S. : ± 4.0

---

BREAKAWAY

Rack travel in mm : 12.40  
Rated speed rpm : 1045  
Tolerance 1/min : ± 5

---

STARTING FUEL DELIVERY

Rated speed rpm : 100  
rack travel mm : 12.90  
Tolerance mm : ± 0.20  
Del. quantity  
cm<sup>3</sup>/1000 strokes : 230.0  
Tolerance  
cm<sup>3</sup>/1000 strokes : ± 20.0  
Check tolerance  
cm<sup>3</sup>/1000S. : ± 24.0

---

LOW IDLE

Rated speed rpm : 250  
rack travel mm : 6.30  
Tolerance mm : ± 0.30  
Del. quantity  
cm<sup>3</sup>/1000 strokes : 31.0  
Tolerance  
cm<sup>3</sup>/1000 strokes : ± 3.0  
Check tolerance  
cm<sup>3</sup>/1000S. : ± 6.0  
Spreed  
Tolerance  
cm<sup>3</sup>/1000 strokes : 4.0

Check tolerance : 8.0  
cm<sup>3</sup>/1000S.



BOSCH INJ. PUMP TEST SPECIFICATIONS

Note remarks

Refer to Service Info for test and adjustment instructions.  
See microcard(s) W400/...

Edition : 12.12.94  
Test oil : ISO 4113  
Combination No. : 0402648836  
Injection pump  
Pump designation : PE8P120A720LS7125  
                  : -10T  
EP type number : 0412628890  
Governor  
Governor design. : RQV200...950PA736-4  
Governor no. : 0421813646  
Cust. part No. : 397963

Customer-spec. information  
Customer : SCANIA  
Motor : DSC14 03 L09,L10

TEST BENCH REQUIREMENTS

Test oil inlet  
temp. °C : 40  
Tolerance °C : + 2.0  
Overflow valve : 1417413025  
Inlet press. bar : 1.5  
Test nozzle holder  
assembly : 1688901019  
Opening pressure  
bar : 208.5  
Tolerance bar : + 1.5  
Test Lines : 1680750015  
Outside diameter : 6.0  
x inside diameter : 1.5

x length mm : 600

REMARKS

Check and set without ROBO diaphragm

(A) INJECTION PUMP SETTING VALUES  
Set equal delivery quant.  
per values \_\_\_\_\_

BEGINNING OF DELIVERY

Test pressure bar : 31.0  
Tolerance bar : + 1.0

Prestroke mm : 5.05  
Tolerance mm : + 0.05

test only : + 0.10

Rack travel in mm : 10.50  
Tolerance mm : + 1.50

Firing order : 1- 2- 7- 3- 4  
                  : - 5- 6- 8

Phasing : 0-45-90-135-180  
          : -225-270-315  
Tolerance : + 0.30  
Check  
tolerance °NW : + 0.50

BEGINNING OF DELIVERY DIFFERENCE

Time to cyl. no. : 1

BASIC SETTING

Rated speed rpm : 700

Rack travel in mm : 13.85  
Tolerance mm : + 0.05

Del. quantity  
cm<sup>3</sup>/1000 strokes : 222.0

Tolerance  
cm<sup>3</sup>/1000 strokes : +- 1.0

---

Check tolerance  
cm<sup>3</sup>/1000S. : +- 4.0

---

Spreed  
Tolerance  
cm<sup>3</sup>/1000 strokes : 6.0

---

Check tolerance  
cm<sup>3</sup>/1000S. : 9.0

Del. quantity  
cm<sup>3</sup>/1000 strokes : 18.0

Tolerance  
cm<sup>3</sup>/1000 strokes : +- 2.0

Check tolerance  
cm<sup>3</sup>/1000S. : +- 4.0

Spreed  
Tolerance  
cm<sup>3</sup>/1000 strokes : 3.0

Check tolerance  
cm<sup>3</sup>/1000S. : 6.0

(B) SETTING OF INJECTION PUMP  
WITH GOVERNOR

---

GUIDE SLEEVE POSITION

control lever  
position degree : - 1  
Rated speed rpm : 1040

Rack travel in mm : 16.50  
Tolerance mm : +- 1.30

---

FULL LOAD DELIVERY AT FULL LOAD STOP

Rated speed rpm : 700  
Aneroid pressure  
hPa : 900  
Del. quantity  
cm<sup>3</sup>/1000 strokes : 222.0  
Tolerance  
cm<sup>3</sup>/1000 strokes : +- 1.0  
Check tolerance  
cm<sup>3</sup>/1000S. : +- 4.0  
Spreed  
Tolerance  
cm<sup>3</sup>/1000 strokes : 6.0  
Check tolerance  
cm<sup>3</sup>/1000S. : 9.0

---

RATED SPEED

control lever  
position degree : 60.0  
tolerance degree : +- 4.0

control lever  
position degree : 115.0  
tolerance degree : +- 4.0

rack travel mm : 12.80  
Rated speed rpm : 995  
Tolerance 1/min : +- 5

rack travel mm : 4.00  
Rated speed rpm : 1125  
Tolerance 1/min : +- 15

rack travel mm : 0.50  
Tolerance mm : +- 0.50  
Rated speed rpm : 1250

---

LOW IDLE

control lever  
position degree : 65.0  
tolerance degree : +- 4.0

control lever  
position degree : 11.0  
tolerance degree : +- 4.0

Testing:

Rated speed rpm : 225  
rack travel mm : 5.00  
Tolerance mm : +- 0.10

rack travel mm : 2.00  
Rated speed rpm : 390  
Tolerance 1/min : +- 30

Rated speed rpm : 100

CRT mm min. : > 6.50

---

TORQUE CONTROL

Rated speed rpm : 950  
rack travel mm : 13.85  
Tolerance mm : +- 0.05

---

ANEROID/ALTITUDE  
COMPENSATOR TEST

SETTING

Rated speed rpm : 500  
Pressure hPa : 900  
rack travel mm : 13.85  
Tolerance mm :  $\pm$  0.05

MEASUREMENT

Pressure hPa : -  
Rated speed rpm : 500  
rack travel mm : 10.80  
Tolerance mm :  $\pm$  0.20

Rated speed rpm : 500

Pressure hPa : 325  
rack travel mm : 11.50  
Tolerance mm :  $\pm$  0.20

Pressure hPa : 445  
rack travel mm : 12.95  
Tolerance mm :  $\pm$  0.05

---

FUEL DELIVERY CHARACTERISTICS

Aneroid pressure  
hPa : 900  
Rated speed rpm : 950  
Del. quantity  
cm<sup>3</sup>/1000 strokes : 215.0  
Tolerance  
cm<sup>3</sup>/1000 strokes :  $\pm$  4.0  
Check tolerance  
cm<sup>3</sup>/1000S. :  $\pm$  6.0

Aneroid pressure  
hPa : -  
Rated speed rpm : 500  
Del. quantity  
cm<sup>3</sup>/1000 strokes : 140.0  
Tolerance  
cm<sup>3</sup>/1000 strokes :  $\pm$  2.0  
Check tolerance  
cm<sup>3</sup>/1000S. :  $\pm$  4.0

---

BREAKAWAY

Rack travel in mm : 12.80  
Rated speed rpm : 995

Tolerance 1/min :  $\pm$  5

---

STARTING FUEL DELIVERY

Rated speed rpm : 100  
rack travel mm : 20.50  
Tolerance mm :  $\pm$  0.50  
Del. quantity  
cm<sup>3</sup>/1000 strokes : 265.0  
Tolerance  
cm<sup>3</sup>/1000 strokes :  $\pm$  20.0  
Check tolerance  
cm<sup>3</sup>/1000S. :  $\pm$  24.0

---

LOW IDLE

Del. quantity  
cm<sup>3</sup>/1000 strokes : 18.0  
Tolerance  
cm<sup>3</sup>/1000 strokes :  $\pm$  2.0  
Check tolerance  
cm<sup>3</sup>/1000S. :  $\pm$  4.0  
Speed  
Tolerance  
cm<sup>3</sup>/1000 strokes : 3.0  
Check tolerance  
cm<sup>3</sup>/1000S. : 6.0

BOSCH INJ. PUMP TEST SPECIFICATIONS

Note remarks

Refer to Service Info for test and adjustment instructions.  
See microcard(s) W400/...

Edition : 12.12.94  
Test oil : ISO 4113  
Combination No. : 0402648839  
Injection pump  
Pump designation : PE8P120A720LS7125  
: -10T  
EP type number : 0412628890  
Governor  
Governor design. : RQV200...950PA736-1  
Governor no. : 0421813551  
Cust. part No. : 380804

Customer-spec. information  
Customer : SCANIA  
Motor : DSC14 03

TEST BENCH REQUIREMENTS

Test oil inlet  
temp. °C : 40  
Tolerance °C : + 2.0  
Overflow valve : 1417413025  
Inlet press. bar : 1.5  
Test nozzle holder  
assembly : 1688901019  
Opening pressure  
bar : 208.5  
Tolerance bar : + 1.5  
Test lines : 1680750015  
Outside diameter : 6.0  
x inside diameter : 1.5

x length mm : 600

REMARKS

Check and set without ROBO diaphragm

(A) INJECTION PUMP SETTING VALUES  
Set equal delivery quant.  
per values \_\_\_\_\_

BEGINNING OF DELIVERY

Test pressure bar : 31.0  
Tolerance bar : + 1.0

Prestroke mm : 5.05  
Tolerance mm : + 0.05

test only : + 0.10

Rack travel in mm : 10.50  
Tolerance mm : + 1.50

Firing order : 1- 2- 7- 3- 4  
: - 5- 6- 8

Phasing : 0-45-90-135-180  
: -225-270-315  
Tolerance : + 0.30  
Check  
tolerance °NW : + 0.50

BEGINNING OF DELIVERY DIFFERENCE

Time to cyl. no. : 1

BASIC SETTING

Rated speed rpm : 700

Rack travel in mm : 13.85  
Tolerance mm : + 0.05

Del. quantity  
cm<sup>3</sup>/1000 strokes : 222.0

Tolerance  
cm<sup>3</sup>/1000 strokes : +- 1.0

---

Check tolerance  
cm<sup>3</sup>/1000S. : +- 4.0

---

Spreed  
Tolerance  
cm<sup>3</sup>/1000 strokes : 6.0

---

Check tolerance  
cm<sup>3</sup>/1000S. : 9.0

Del. quantity  
cm<sup>3</sup>/1000 strokes : 18.0

Tolerance  
cm<sup>3</sup>/1000 strokes : +- 2.0

Check tolerance  
cm<sup>3</sup>/1000S. : +- 4.0

Spreed  
Tolerance  
cm<sup>3</sup>/1000 strokes : 3.0

Check tolerance  
cm<sup>3</sup>/1000S. : 6.0

(B) SETTING OF INJECTION PUMP  
WITH GOVERNOR

---

GUIDE SLEEVE POSITION

control lever  
position degree : - 1  
Rated speed rpm : 1040

Rack travel in mm : 16.50  
Tolerance mm : +- 1.30

---

FULL LOAD DELIVERY AT FULL LOAD STOP

Rated speed rpm : 700  
Aneroid pressure  
hPa : 900  
Del. quantity  
cm<sup>3</sup>/1000 strokes : 222.0  
Tolerance  
cm<sup>3</sup>/1000 strokes : +- 1.0  
Check tolerance  
cm<sup>3</sup>/1000S. : +- 4.0  
Spreed  
Tolerance  
cm<sup>3</sup>/1000 strokes : 6.0  
Check tolerance  
cm<sup>3</sup>/1000S. : 9.0

---

RATED SPEED

control lever  
position degree : 60.0  
tolerance degree : +- 4.0

control lever  
position degree : 95.0  
tolerance degree : +- 4.0

rack travel mm : 12.80  
Rated speed rpm : 995  
Tolerance 1/min : +- 5

rack travel mm : 4.00  
Rated speed rpm : 1125  
Tolerance 1/min : +- 15

rack travel mm : 0.50  
Tolerance mm : +- 0.50  
Rated speed rpm : 1250

---

LOW IDLE

control lever  
position degree : 44.0  
tolerance degree : +- 4.0

control lever  
position degree : 10.0  
tolerance degree : +- 4.0

Testing:

Rated speed rpm : 225  
rack travel mm : 5.00  
Tolerance mm : +- 0.10

rack travel mm : 2.00  
Rated speed rpm : 390  
Tolerance 1/min : +- 30

Rated speed rpm : 125  
CRT mm min. : > 6.00

---

TORQUE CONTROL

Rated speed rpm : 950  
rack travel mm : 13.85  
Tolerance mm : +- 0.05



---

ANEROID/ALTITUDE  
COMPENSATOR TEST

SETTING

Rated speed rpm : 500  
Pressure hPa : 900  
rack travel mm : 13.85  
Tolerance mm : ± 0.05

MEASUREMENT

Pressure hPa : -  
Rated speed rpm : 500  
rack travel mm : 11.40  
Tolerance mm : ± 0.20

Rated speed rpm : 500

Pressure hPa : 215  
rack travel mm : 12.00  
Tolerance mm : ± 0.15

Pressure hPa : 365  
rack travel mm : 12.85  
Tolerance mm : ± 0.05

---

FUEL DELIVERY CHARACTERISTICS

Aneroid pressure  
hPa : 900  
Rated speed rpm : 950  
Del. quantity  
cm<sup>3</sup>/1000 strokes : 215.0  
Tolerance  
cm<sup>3</sup>/1000 strokes : ± 4.0  
Check tolerance  
cm<sup>3</sup>/1000S. : ± 6.0

Aneroid pressure  
hPa : -  
Rated speed rpm : 500  
Del. quantity  
cm<sup>3</sup>/1000 strokes : 160.0  
Tolerance  
cm<sup>3</sup>/1000 strokes : ± 2.0  
Check tolerance  
cm<sup>3</sup>/1000S. : ± 4.0

---

BREAKAWAY

Rack travel in mm : 12.80  
Rated speed rpm : 995

Tolerance 1/min : ± 5

---

STARTING FUEL DELIVERY

Rated speed rpm : 100  
rack travel mm : 20.50  
Tolerance mm : ± 0.50  
Del. quantity  
cm<sup>3</sup>/1000 strokes : 265.0  
Tolerance  
cm<sup>3</sup>/1000 strokes : ± 20.0  
Check tolerance  
cm<sup>3</sup>/1000S. : ± 24.0

---

LOW IDLE

Del. quantity  
cm<sup>3</sup>/1000 strokes : 18.0  
Tolerance  
cm<sup>3</sup>/1000 strokes : ± 2.0  
Check tolerance  
cm<sup>3</sup>/1000S. : ± 4.0  
Speed  
Tolerance  
cm<sup>3</sup>/1000 strokes : 3.0  
Check tolerance  
cm<sup>3</sup>/1000S. : 6.0

BOSCH INJ. PUMP TEST SPECIFICATIONS

Note remarks

Refer to Service Info for test and adjustment instructions.  
See microcard(s) W400/...

Edition : 12.12.94  
Test oil : ISO 4113

Combination No. : 0402648866

Injection pump  
Pump designation : PE8P120A720LS7125  
: -10  
EP type number : 0412628891

Governor  
Governor design. : RQV350...1050PA795  
: -7  
Governor no. : 0421813768

Cust. part No. : 1305128

Customer-spec. information  
Customer : SCANIA  
Motor : DS 14

TEST BENCH REQUIREMENTS

Test oil inlet  
temp. °C : 40  
Tolerance °C : ± 2.0

Overflow valve : 1417413025

Inlet press. bar : 1.5

Test nozzle holde  
assembly : 1688901019

Opening pressure  
bar : 208.5  
Tolerance bar : ± 1.5

Test Lines : 1680750015

Outside diameter : 6.0

x inside diameter : 1.5  
x length mm : 600

REMARKS

Check and set without ROBO diaphragam

(A) INJECTION PUMP SETTING VALUES  
Set equal delivery quant.  
per values \_\_\_\_\_

BEGINNING OF DELIVERY

Test pressure bar : 31.0  
Tolerance bar : ± 1.0

Prestroke mm : 5.05  
Tolerance mm : ± 0.05

test only : ± 0.10

Rack travel in mm : 10.50  
Tolerance mm : ± 1.50

Firing order : 1- 2- 7- 3- 4  
: - 5- 6- 8

Phasing : 0-45-90-135-180  
: -225-270-315  
Tolerance : ± 0.30  
Check  
tolerance °NW : ± 0.50

BEGINNING OF DELIVERY DIFFERENCE

Time to cyl. no. : 1

BASIC SETTING

Rated speed rpm : 700

Rack travel in mm : 13.55  
Tolerance mm : ± 0.05

Del. quantity  
cm<sup>3</sup>/1000 strokes : 215.0

---

Tolerance  
cm<sup>3</sup>/1000 strokes : ± 1.0

---

Check tolerance  
cm<sup>3</sup>/1000S. : ± 4.0

---

Spread  
Tolerance  
cm<sup>3</sup>/1000 strokes : 6.0

---

Check tolerance  
cm<sup>3</sup>/1000S. : 9.0

Del. quantity  
cm<sup>3</sup>/1000 strokes : 17.0

Tolerance  
cm<sup>3</sup>/1000 strokes : ± 2.0

Check tolerance  
cm<sup>3</sup>/1000S. : ± 4.0

Spread  
Tolerance  
cm<sup>3</sup>/1000 strokes : 3.0  
Check tolerance  
cm<sup>3</sup>/1000S. : 6.0

(B) SETTING OF INJECTION PUMP  
WITH GOVERNOR

---

GUIDE SLEEVE POSITION

control lever  
position degree : - 1  
Rated speed rpm : 1170

Rack travel in mm : 16.50  
Tolerance mm : ± 1.30

---

FULL LOAD DELIVERY AT FULL LOAD STOP

Rated speed rpm : 700  
Aneroid pressure  
hPa : 900  
Del. quantity  
cm<sup>3</sup>/1000 strokes : 215.0  
Tolerance  
cm<sup>3</sup>/1000 strokes : ± 1.0  
Check tolerance  
cm<sup>3</sup>/1000S. : ± 4.0  
Spread  
Tolerance  
cm<sup>3</sup>/1000 strokes : 6.0

Check tolerance  
cm<sup>3</sup>/1000S. : 9.0

---

RATED SPEED

control lever  
position degree : 48.0  
tolerance degree : ± 4.0

control lever  
position degree : 104.0  
tolerance degree : ± 4.0

rack travel mm : 12.50  
Rated speed rpm : 1095  
Tolerance 1/min : ± 5

rack travel mm : 4.00  
Rated speed rpm : 1215  
Tolerance 1/min : ± 15

rack travel mm : 0.50  
Tolerance mm : ± 0.50  
Rated speed rpm : 1350

---

LOW IDLE

control lever  
position degree : 73.0  
tolerance degree : ± 4.0

control lever  
position degree : 15.0  
tolerance degree : ± 4.0

Testing:

Rated speed rpm : 350  
rack travel mm : 4.70  
Tolerance mm : ± 0.10

rack travel mm : 2.00  
Rated speed rpm : 400  
Tolerance 1/min : ± 30

Rated speed rpm : 100

CRT mm min. : > 10.50

---

TORQUE CONTROL

Rated speed rpm : 950  
rack travel mm : 13.55  
Tolerance mm : ± 0.05

---

ANEROID/ALTITUDE  
COMPENSATOR TEST

SETTING

Rated speed rpm : 500  
Pressure hPa : 900  
rack travel mm : 13.55  
Tolerance mm : ± 0.05

MEASUREMENT

Pressure hPa : -  
Rated speed rpm : 500  
rack travel mm : 11.40  
Tolerance mm : ± 0.20

Rated speed rpm : 500

Pressure hPa : 215  
rack travel mm : 11.90  
Tolerance mm : ± 0.15

Pressure hPa : 365  
rack travel mm : 12.85  
Tolerance mm : ± 0.05

---

FUEL DELIVERY CHARACTERISTICS

Aneroid pressure  
hPa : 900  
Rated speed rpm : 950  
Del. quantity  
cm<sup>3</sup>/1000 strokes : 207.0  
Tolerance  
cm<sup>3</sup>/1000 strokes : ± 4.0  
Check tolerance  
cm<sup>3</sup>/1000S. : ± 6.0

Aneroid pressure  
hPa : -  
Rated speed rpm : 500  
Del. quantity  
cm<sup>3</sup>/1000 strokes : 160.0  
Tolerance  
cm<sup>3</sup>/1000 strokes : ± 2.0  
Check tolerance  
cm<sup>3</sup>/1000S. : ± 4.0

---

BREAKAWAY

Rack travel in mm : 12.50  
Rated speed rpm : 1095

Tolerance 1/min : ± 5

---

STARTING FUEL DELIVERY

Rated speed rpm : 100  
rack travel mm : 20.50  
Tolerance mm : ± 0.50  
Del. quantity  
cm<sup>3</sup>/1000 strokes : 265.0  
Tolerance  
cm<sup>3</sup>/1000 strokes : ± 20.0  
Check tolerance  
cm<sup>3</sup>/1000S. : ± 24.0

---

LOW IDLE

Del. quantity  
cm<sup>3</sup>/1000 strokes : 17.0  
Tolerance  
cm<sup>3</sup>/1000 strokes : ± 2.0  
Check tolerance  
cm<sup>3</sup>/1000S. : ± 4.0  
Spreed  
Tolerance  
cm<sup>3</sup>/1000 strokes : 3.0  
Check tolerance  
cm<sup>3</sup>/1000S. : 6.0

BOSCH INJ. PUMP TEST SPECIFICATIONS

Note remarks

Refer to Service Info for test and adjustment instructions.  
See microcard(s) W400/...

Edition : 12.12.94  
Test oil : ISO 4113

Combination No. : 0402648869

Injection pump  
Pump designation : PE8P120A720LS7125  
: -10  
EP type number : 0412628891

Governor  
Governor design. : RQV200...1050PA736  
: -7  
Governor no. : 0421813771

Cust. part No. : 1305137

Customer-spec. information  
Customer : SCANIA  
Motor : DS14

TEST BENCH REQUIREMENTS

Test oil inlet  
temp. °C : 40  
Tolerance °C : ± 2.0

Overflow valve : 1417413025

Inlet press. bar : 1.5

Test nozzle holder  
assembly : 1688901019

Opening pressure  
bar : 208.5  
Tolerance bar : ± 1.5

Test lines : 1680750015

Outside diameter : 6.0

x inside diameter : 1.5  
x length mm : 600

REMARKS

Check and set without ROBO diaphragm

(A) INJECTION PUMP SETTING VALUES  
Set equal delivery quant.  
per values \_\_\_\_\_

BEGINNING OF DELIVERY

Test pressure bar : 31.0  
Tolerance bar : ± 1.0

Prestroke mm : 5.05  
Tolerance mm : ± 0.05

test only : ± 0.10

Rack travel in mm : 10.50  
Tolerance mm : ± 1.50

Firing order : 1- 2- 7- 3- 4  
: - 5- 6- 8

Phasing : 0-45-90-135-180  
: -225-270-315

Tolerance : ± 0.30  
Check  
tolerance °NW : ± 0.50

BEGINNING OF DELIVERY DIFFERENCE

Time to cyl. no. : 1

BASIC SETTING

Rated speed rpm : 700

Rack travel in mm : 13.55  
Tolerance mm : ± 0.05

Del. quantity cm <sup>3</sup> /1000 strokes	: 215.0
<hr/>	
Tolerance cm <sup>3</sup> /1000 strokes	: ± 1.0
<hr/>	
Check tolerance cm <sup>3</sup> /1000S.	: ± 4.0
<hr/>	
Spread Tolerance cm <sup>3</sup> /1000 strokes	: 6.0
<hr/>	
Check tolerance cm <sup>3</sup> /1000S.	: 9.0
<hr/>	
Del. quantity cm <sup>3</sup> /1000 strokes	: 18.0
Tolerance cm <sup>3</sup> /1000 strokes	: ± 2.0
Check tolerance cm <sup>3</sup> /1000S.	: ± 4.0
Spread Tolerance cm <sup>3</sup> /1000 strokes	: 3.0
Check tolerance cm <sup>3</sup> /1000S.	: 6.0

(B) SETTING OF INJECTION PUMP WITH GOVERNOR

GUIDE SLEEVE POSITION

control lever position degree	: - 1
Rated speed rpm	: 1100
<hr/>	
Rack travel in mm	: 16.50
Tolerance mm	: ± 1.30

FULL LOAD DELIVERY AT FULL LOAD STOP

Rated speed rpm	: 700
Aneroid pressure hPa	: 900
Del. quantity cm <sup>3</sup> /1000 strokes	: 215.0
Tolerance cm <sup>3</sup> /1000 strokes	: ± 1.0
Check tolerance cm <sup>3</sup> /1000S.	: ± 4.0
Spread Tolerance cm <sup>3</sup> /1000 strokes	: 6.0

Check tolerance cm <sup>3</sup> /1000S.	: 9.0
--	-------

RATED SPEED

control lever position degree	: 62.0
tolerance degree	: ± 4.0
<hr/>	
control lever position degree	: 99.0
tolerance degree	: ± 4.0
<hr/>	
rack travel mm	: 12.50
Rated speed rpm	: 1095
Tolerance 1/min	: ± 5
<hr/>	
rack travel mm	: 4.00
Rated speed rpm	: 1215
Tolerance 1/min	: ± 15
<hr/>	
rack travel mm	: 0.50
Tolerance mm	: ± 0.50
Rated speed rpm	: 1350

LOW IDLE

control lever position degree	: 44.0
tolerance degree	: ± 4.0
<hr/>	
control lever position degree	: 10.0
tolerance degree	: ± 4.0

Testing:

Rated speed rpm	: 225
rack travel mm	: 5.00
Tolerance mm	: ± 0.10
<hr/>	
rack travel mm	: 2.00
Rated speed rpm	: 410
Tolerance 1/min	: ± 30
<hr/>	
Rated speed rpm	: 100
CRT mm min.	: > 6.50

TORQUE CONTROL

Rated speed rpm	: 1050
rack travel mm	: 13.55
Tolerance mm	: ± 0.05

---

ANEROID/ALTITUDE  
COMPENSATOR TEST

SETTING

Rated speed rpm : 500  
Pressure hPa : 900  
rack travel mm : 13.55  
Tolerance mm : ± 0.05

MEASUREMENT

Pressure hPa : -  
Rated speed rpm : 500  
rack travel mm : 11.40  
Tolerance mm : ± 0.20

Rated speed rpm : 500

Pressure hPa : 215  
rack travel mm : 12.00  
Tolerance mm : ± 0.15

Pressure hPa : 365  
rack travel mm : 12.85  
Tolerance mm : ± 0.05

---

FUEL DELIVERY CHARACTERISTICS

Aneroid pressure  
hPa : 900  
Rated speed rpm : 1050  
Del. quantity  
cm<sup>3</sup>/1000 strokes : 212.0  
Tolerance  
cm<sup>3</sup>/1000 strokes : ± 4.0  
Check tolerance  
cm<sup>3</sup>/1000S. : ± 6.0

Aneroid pressure  
hPa : -  
Rated speed rpm : 500  
Del. quantity  
cm<sup>3</sup>/1000 strokes : 160.0  
Tolerance  
cm<sup>3</sup>/1000 strokes : ± 2.0  
Check tolerance  
cm<sup>3</sup>/1000S. : ± 4.0

---

BREAKAWAY

Rack travel in mm : 12.50  
Rated speed rpm : 1095

Tolerance 1/min : ± 5

---

STARTING FUEL DELIVERY

Rated speed rpm : 100  
rack travel mm : 20.50  
Tolerance mm : ± 0.50  
Del. quantity  
cm<sup>3</sup>/1000 strokes : 265.0  
Tolerance  
cm<sup>3</sup>/1000 strokes : ± 20.0  
Check tolerance  
cm<sup>3</sup>/1000S. : ± 24.0

---

LOW IDLE

Del. quantity  
cm<sup>3</sup>/1000 strokes : 18.0  
Tolerance  
cm<sup>3</sup>/1000 strokes : ± 2.0  
Check tolerance  
cm<sup>3</sup>/1000S. : ± 4.0  
Speed  
Tolerance  
cm<sup>3</sup>/1000 strokes : 3.0  
Check tolerance  
cm<sup>3</sup>/1000S. : 6.0

BOSCH INJ. PUMP TEST SPECIFICATIONS

Note remarks

Refer to Service Info for test and adjustment instructions.  
See microcard(s) W400/...

Edition : 12.12.94  
Test oil : ISO 4113  
Combination No. : 0402648883  
Injection pump  
Pump designation : PE8P120A720LS7125  
: -10  
EP type number : 0412628891  
Governor  
Governor design. : RQV300...900PA795  
: -11  
Governor no. : 0421813847  
Cust. part No. : 1305129

Customer-spec. information  
Customer : SCANIA  
Motor : DS14 48M

TEST BENCH REQUIREMENTS

Test oil inlet  
temp. °C : 40  
Tolerance °C : ± 2.0  
Overflow valve : 1417413025  
Inlet press. bar : 1.5  
Tolerance bar : ± 0.1  
Tolerance l/h : ± 10.0  
Test nozzle holder  
assembly : 1688901019  
Opening pressure  
bar : 208.5  
Tolerance bar : ± 1.5  
Lube oil : 1409918004

Test lines : 1680750015  
Outside diameter : 6.0  
x inside diameter : 3.0  
x length mm : 600

REMARKS

Check and set without ROBO diaphragam

(A) INJECTION PUMP SETTING VALUES  
Set equal delivery quant.  
per values \_\_\_\_\_

BEGINNING OF DELIVERY

Test pressure bar : 31.0  
Tolerance bar : ± 1.0  
Prestroke mm : 5.05  
Tolerance mm : ± 0.05  
test only : ± 0.10  
Rack travel in mm : 10.50  
Tolerance mm : ± 1.50  
Firing order : 1- 2- 7- 3- 4  
: - 5- 6- 8  
Phasing : 0-45-90-135-180  
: -225-270-315  
Tolerance : ± 0.30  
Check  
tolerance °NW : ± 0.75

BEGINNING OF DELIVERY DIFFERENCE

Time to cyl. no. : 1

BASIC SETTING

Rated speed rpm : 700



Rack travel in mm	:	13.55
Tolerance mm	:	+ 0.05
<hr/>		
Del. quantity		
cm <sup>3</sup> /1000 strokes	:	215.0
<hr/>		
Tolerance		
cm <sup>3</sup> /1000 strokes	:	+ 1.0
<hr/>		
Check tolerance		
cm <sup>3</sup> /1000S.	:	+ 4.0
<hr/>		
Spreed		
Tolerance		
cm <sup>3</sup> /1000 strokes	:	6.0
<hr/>		
Check tolerance		
cm <sup>3</sup> /1000S.	:	9.0
<hr/>		
2nd speed rpm	:	300
<hr/>		
Rack travel in mm	:	4.80
Tolerance mm	:	+ 0.30
Del. quantity		
cm <sup>3</sup> /1000 strokes	:	17.0
Tolerance		
cm <sup>3</sup> /1000 strokes	:	+ 2.0
Check tolerance		
cm <sup>3</sup> /1000S.	:	+ 4.0
Spreed		
Tolerance		
cm <sup>3</sup> /1000 strokes	:	3.0
Check tolerance		
cm <sup>3</sup> /1000S.	:	6.0

(B) SETTING OF INJECTION PUMP  
WITH GOVERNOR

GUIDE SLEEVE TRAVEL

Rated speed rpm	:	300
guide sleeve		
travel mm	:	1.56
Tolerance mm	:	+ 0.15
<hr/>		
Rated speed rpm	:	960
guide sleeve		
travel mm	:	8.18
Tolerance mm	:	+ 0.20
<hr/>		
Rated speed rpm	:	688
guide sleeve		
travel mm	:	5.27
Tolerance mm	:	+ 0.25
<hr/>		
Rated speed rpm	:	345

guide sleeve		
travel mm	:	2.04
Tolerance mm	:	+ 0.25
<hr/>		
Rated speed rpm	:	395
guide sleeve		
travel mm	:	2.62
Tolerance mm	:	+ 0.25
<hr/>		
Rated speed rpm	:	450
guide sleeve		
travel mm	:	3.12
Tolerance mm	:	+ 0.25
<hr/>		
Rated speed rpm	:	1190
guide sleeve		
travel mm	:	11.50
Tolerance mm	:	+ 0.50

GUIDE SLEEVE POSITION

control lever		
position degree	:	- 1
Rated speed rpm	:	1035
<hr/>		
Rack travel in mm	:	12.50
Tolerance mm	:	+ 1.30

FULL LOAD DELIVERY AT FULL LOAD STOP

Rated speed rpm	:	700
Aneroid pressure		
hPa	:	-
Del. quantity		
cm <sup>3</sup> /1000 strokes	:	215.0
Tolerance		
cm <sup>3</sup> /1000 strokes	:	+ 1.0
Check tolerance		
cm <sup>3</sup> /1000S.	:	+ 4.0
Spreed		
Tolerance		
cm <sup>3</sup> /1000 strokes	:	6.0
Check tolerance		
cm <sup>3</sup> /1000S.	:	9.0

RATED SPEED

control lever		
position degree	:	47.0
tolerance degree	:	+ 4.0
<hr/>		
control lever		
position degree	:	105.0
tolerance degree	:	+ 4.0

rack travel mm : 12.50  
Rated speed rpm : 945  
Tolerance 1/min : + 5  
  
rack travel mm : 4.00  
Rated speed rpm : 1040  
Tolerance 1/min : + 15  
  
rack travel mm : 0.50  
Tolerance mm : + 0.50  
Rated speed rpm : 1150

---

#### LOW IDLE

control lever  
position degree : 73.0  
tolerance degree : + 4.0

control lever  
position degree : 15.0  
tolerance degree : + 4.0

#### Testing:

Rated speed rpm : 300  
rack travel mm : 4.80  
Tolerance mm : + 0.10

Rated speed rpm : 175  
CRT mm min. : > 6.30

---

#### CONTINUOUS-ACTION CONTROL

Rated speed rpm : 325

---

#### TORQUE CONTROL

Rated speed rpm : 850  
rack travel mm : 13.55  
Tolerance mm : + 0.05

---

#### ANEROID/ALTITUDE COMPENSATOR TEST

#### SETTING

Rated speed rpm : 500  
Pressure hPa : 1500  
rack travel mm : 13.55  
Tolerance mm : + 0.05

#### MEASUREMENT

Pressure hPa : -  
Rated speed rpm : 500  
rack travel mm : 11.35  
Tolerance mm : + 0.20

Rated speed rpm : 500

Pressure hPa : 215  
rack travel mm : 12.00  
Tolerance mm : + 0.15

Pressure hPa : 365  
rack travel mm : 12.85  
Tolerance mm : + 0.05

---

#### FUEL DELIVERY CHARACTERISTICS

Aneroid pressure  
hPa : -  
Rated speed rpm : 850  
Del. quantity  
cm<sup>3</sup>/1000 strokes : 209.0  
Tolerance  
cm<sup>3</sup>/1000 strokes : + 4.0  
Check tolerance  
cm<sup>3</sup>/1000S. : + 6.0

Aneroid pressure  
hPa : -  
Rated speed rpm : 500  
Del. quantity  
cm<sup>3</sup>/1000 strokes : 160.0  
Tolerance  
cm<sup>3</sup>/1000 strokes : + 2.0  
Check tolerance  
cm<sup>3</sup>/1000S. : + 4.0

---

#### BREAKAWAY

Rack travel in mm : 12.50  
Rated speed rpm : 945  
Tolerance 1/min : + 5

---

#### STARTING FUEL DELIVERY

Rated speed rpm : 100  
rack travel mm : 20.50  
Tolerance mm : + 0.50  
Del. quantity  
cm<sup>3</sup>/1000 strokes : 265.0  
Tolerance  
cm<sup>3</sup>/1000 strokes : + 20.0  
Check tolerance  
cm<sup>3</sup>/1000S. : + 24.0

---

LOW IDLE

Rated speed rpm : 300  
rack travel mm : 4.80  
Tolerance mm :  $\pm$  0.30  
Del. quantity  
cm<sup>3</sup>/1000 strokes : 17.0  
Tolerance  
cm<sup>3</sup>/1000 strokes :  $\pm$  2.0  
Check tolerance  
cm<sup>3</sup>/1000S. :  $\pm$  4.0  
Spreed  
Tolerance  
cm<sup>3</sup>/1000 strokes : 3.0  
Check tolerance  
cm<sup>3</sup>/1000S. : 6.0



BOSCH INJ. PUMP TEST SPECIFICATIONS

Note remarks

Refer to Service Info for test and adjustment instructions.  
See microcard(s) W400/...

Edition : 16.12.94  
Test oil : ISO 4113  
  
Combination No. : 0402648891  
  
Injection pump  
Pump designation : PE8P120A720LS7189  
                          : -10Q  
EP type number : 0412628894  
  
Governor  
Governor design. : RQV200...950PA736-8  
Governor no. : 0421813815

Cust. part No. : 1316120

Customer-spec. information  
Customer : SCANIA  
Motor : DSC14 08

TEST BENCH REQUIREMENTS

Test oil inlet  
temp. °C : 40  
Tolerance °C : ± 2.0

Overflow valve : 1417413025

Inlet press. bar : 2.5  
Tolerance bar : ± 0.1

Tolerance l/h : ± 20.0

Test nozzle holde  
assembly : 1688901104

Opening pressure  
bar : 251.5  
Tolerance bar : ± 1.5

Test lines : 1680750008

Outside diameter : 6.0  
x inside diameter : 2.0  
x length mm : 600

REMARKS

Check and set without ROBO diaphragam

(A) INJECTION PUMP SETTING VALUES  
Set equal delivery quant.  
per values \_\_\_\_\_

BEGINNING OF DELIVERY

Test pressure bar : 31.0  
Tolerance bar : ± 1.0

Prestroke mm : 5.05  
Tolerance mm : ± 0.05

test only : ± 0.10

Rack travel in mm : 10.50  
Tolerance mm : ± 1.50

Firing order : 1- 2- 7- 3- 4  
                  : - 5- 6- 8

Phasing : 0-45-90-135-180  
          : -225-270-315  
Tolerance : ± 0.30  
Check  
tolerance °NW : ± 0.75

BEGINNING OF DELIVERY DIFFERENCE

Time to cyl. no. : 1

BASIC SETTING

Rated speed rpm : 700

Rack travel in mm : 12.35  
Tolerance mm : ± 0.05

Del. quantity  
cm<sup>3</sup>/1000 strokes : 220.0

---

Tolerance  
cm<sup>3</sup>/1000 strokes : ± 1.0

---

Check tolerance  
cm<sup>3</sup>/1000S. : ± 4.0

---

Spreed  
Tolerance  
cm<sup>3</sup>/1000 strokes : 8.0

---

Check tolerance  
cm<sup>3</sup>/1000S. : 12.0

2nd speed rpm : 250

Rack travel in mm : 4.50  
Tolerance mm : ± 0.30  
Del. quantity  
cm<sup>3</sup>/1000 strokes : 16.0  
Tolerance  
cm<sup>3</sup>/1000 strokes : ± 3.0  
Check tolerance  
cm<sup>3</sup>/1000S. : ± 6.0  
Spreed  
Tolerance  
cm<sup>3</sup>/1000 strokes : 4.0  
Check tolerance  
cm<sup>3</sup>/1000S. : 8.0

(B) SETTING OF INJECTION PUMP  
WITH GOVERNOR

GUIDE SLEEVE POSITION

control lever  
position degree : - 1  
Rated speed rpm : 1150

Rack travel in mm : 9.50  
Tolerance mm : ± 2.50

FULL LOAD DELIVERY AT FULL LOAD STOP

Rated speed rpm : 700  
Aneroid pressure  
hPa : -  
Del. quantity  
cm<sup>3</sup>/1000 strokes : 220.0  
Tolerance  
cm<sup>3</sup>/1000 strokes : ± 1.0  
Check tolerance  
cm<sup>3</sup>/1000S. : ± 4.0

Spreed  
Tolerance  
cm<sup>3</sup>/1000 strokes : 8.0  
Check tolerance  
cm<sup>3</sup>/1000S. : 12.0

RATED SPEED

control lever  
position degree : 60.0  
tolerance degree : ± 4.0

control lever  
position degree : 94.0  
tolerance degree : ± 4.0

rack travel mm : 11.30  
Rated speed rpm : 995  
Tolerance 1/min : ± 5

rack travel mm : 4.00  
Rated speed rpm : 1105  
Tolerance 1/min : ± 15

rack travel mm : 0.50  
Tolerance mm : ± 0.50  
Rated speed rpm : 1250

LOW IDLE

control lever  
position degree : 45.0  
tolerance degree : ± 4.0

control lever  
position degree : 11.0  
tolerance degree : ± 4.0

Testing:

Rated speed rpm : 250  
rack travel mm : 4.50  
Tolerance mm : ± 0.10

Rated speed rpm : 150

CRT mm min. : > 5.80

CONTINUOUS-ACTION CONTROL

Rated speed rpm : 275

TORQUE CONTROL

Rated speed rpm : 950  
rack travel mm : 12.35  
Tolerance mm : ± 0.05

---

ANEROID/ALTITUDE  
COMPENSATOR TEST

SETTING

Rated speed rpm : 500  
Pressure hPa : 1500  
rack travel mm : 12.35  
Tolerance mm : ± 0.05

MEASUREMENT

Pressure hPa : -  
Rated speed rpm : 500  
rack travel mm : 10.00  
Tolerance mm : ± 0.20

Rated speed rpm : 500

Pressure hPa : 320  
rack travel mm : 10.50  
Tolerance mm : ± 0.20

Pressure hPa : 525  
rack travel mm : 11.75  
Tolerance mm : ± 0.05

---

FUEL DELIVERY CHARACTERISTICS

Aneroid pressure  
hPa : -  
Rated speed rpm : 950  
Del. quantity  
cm<sup>3</sup>/1000 strokes : 206.0  
Tolerance  
cm<sup>3</sup>/1000 strokes : ± 4.0  
Check tolerance  
cm<sup>3</sup>/1000S. : ± 6.0

Aneroid pressure  
hPa : -  
Rated speed rpm : 500  
Del. quantity  
cm<sup>3</sup>/1000 strokes : 144.0  
Tolerance  
cm<sup>3</sup>/1000 strokes : ± 1.0  
Check tolerance  
cm<sup>3</sup>/1000S. : ± 4.0

---

BREAKAWAY

Rack travel in mm : 11.30  
Rated speed rpm : 995  
Tolerance 1/min : ± 5

---

STARTING FUEL DELIVERY

Rated speed rpm : 100  
rack travel mm : 10.00  
Tolerance mm : ± 0.20  
Del. quantity  
cm<sup>3</sup>/1000 strokes : 155.0  
Tolerance  
cm<sup>3</sup>/1000 strokes : ± 20.0  
Check tolerance  
cm<sup>3</sup>/1000S. : ± 24.0

---

LOW IDLE

Rated speed rpm : 250  
rack travel mm : 4.50  
Tolerance mm : ± 0.30  
Del. quantity  
cm<sup>3</sup>/1000 strokes : 16.0  
Tolerance  
cm<sup>3</sup>/1000 strokes : ± 3.0  
Check tolerance  
cm<sup>3</sup>/1000S. : ± 6.0  
Speed  
Tolerance  
cm<sup>3</sup>/1000 strokes : 4.0  
Check tolerance  
cm<sup>3</sup>/1000S. : 8.0

BOSCH INJ. PUMP TEST SPECIFICATIONS

Note remarks

Refer to Service Info for test and adjustment instructions.  
See microcard(s) W400/...

Edition : 16.12.94  
Test oil : ISO 4113  
Combination No. : 0402648961  
Injection pump  
Pump designation : PE8P120A720LS7189  
                  : -10  
EP type number : 0412628893  
Governor  
Governor design. : RQV350...1050PA795  
                  : -16  
Governor no. : 0421814054  
Cust. part No. : 1340522

---

Customer-spec. information  
Customer : SCANIA  
Motor : DSI1457M

---

TEST BENCH REQUIREMENTS

Test oil inlet  
temp. °C : 40  
Tolerance °C : ± 2.0  
Overflow valve : 1417413025  
Inlet press. bar : 2.5  
Tolerance bar : ± 0.1  
Tolerance l/h : ± 20.0  
Test nozzle holder  
assembly : 1688901104  
Opening pressure  
bar : 251.5  
Tolerance bar : ± 1.5  
Test lines : 1680750008

Outside diameter : 6.0  
x inside diameter : 2.0  
x length mm : 600

---

REMARKS

Check and set without ROBO diaphragm

(A) INJECTION PUMP SETTING VALUES  
Set equal delivery quant.  
per values \_\_\_\_\_

---

BEGINNING OF DELIVERY

Test pressure bar : 31.0  
Tolerance bar : ± 1.0  
Prestroke mm : 5.05  
Tolerance mm : ± 0.05  
test only : ± 0.10  
Rack travel in mm : 10.50  
Tolerance mm : ± 1.50  
Firing order : 1- 2- 7- 3- 4  
                  : - 5- 6- 8  
Phasing : 0-45-90-135-180  
          : -225-270-315  
Tolerance : ± 0.30  
Check  
tolerance °NW : ± 0.75

---

BEGINNING OF DELIVERY DIFFERENCE

Time to cyl. no. : 1

---

BASIC SETTING

Rated speed rpm : 700  
Rack travel in mm : 13.25  
Tolerance mm : ± 0.05

---

<hr/>	
Del. quantity	
cm <sup>3</sup> /1000 strokes :	244.0
<hr/>	
Tolerance	
cm <sup>3</sup> /1000 strokes :	+ 1.0
<hr/>	
Check tolerance	
cm <sup>3</sup> /1000S.	: + 4.0
<hr/>	
Speed	
Tolerance	
cm <sup>3</sup> /1000 strokes :	8.0
<hr/>	
Check tolerance	
cm <sup>3</sup> /1000S.	: 12.0
<hr/>	
2nd speed rpm	: 350
<hr/>	
Rack travel in mm :	4.60
Tolerance mm :	+ 0.30
Del. quantity	
cm <sup>3</sup> /1000 strokes :	21.0
Tolerance	
cm <sup>3</sup> /1000 strokes :	+ 3.0
Check tolerance	
cm <sup>3</sup> /1000S.	: + 6.0
Speed	
Tolerance	
cm <sup>3</sup> /1000 strokes :	4.0
Check tolerance	
cm <sup>3</sup> /1000S.	: 8.0

(B) SETTING OF INJECTION PUMP  
WITH GOVERNOR

GUIDE SLEEVE POSITION

control lever	
position degree :	- 1
Rated speed rpm :	1150
<hr/>	
Rack travel in mm :	16.50
Tolerance mm :	+ 1.30

FULL LOAD DELIVERY AT FULL LOAD STOP

Rated speed rpm :	700
Aneroid pressure	
hPa :	-
Del. quantity	
cm <sup>3</sup> /1000 strokes :	244.0
Tolerance	
cm <sup>3</sup> /1000 strokes :	+ 1.0

Check tolerance	
cm <sup>3</sup> /1000S.	: + 4.0
Speed	
Tolerance	
cm <sup>3</sup> /1000 strokes :	8.0
Check tolerance	
cm <sup>3</sup> /1000S.	: 12.0

RATED SPEED

control lever	
position degree :	47.0
tolerance degree :	+ 4.0

control lever	
position degree :	105.0
tolerance degree :	+ 4.0

rack travel mm :	12.20
Rated speed rpm :	1095
Tolerance 1/min :	+ 5

rack travel mm :	4.00
Rated speed rpm :	1210
Tolerance 1/min :	+ 15

rack travel mm :	0.50
Tolerance mm :	+ 0.50
Rated speed rpm :	1350

LOW IDLE

control lever	
position degree :	73.0
tolerance degree :	+ 4.0

control lever	
position degree :	15.0
tolerance degree :	+ 4.0

Testing:

Rated speed rpm :	350
rack travel mm :	4.60
Tolerance mm :	+ 0.10

Rated speed rpm :	250
-------------------	-----

CRT mm min. :	> 7.50
---------------	--------

CONTINUOUS-ACTION CONTROL

Rated speed rpm :	325
-------------------	-----



---

TORQUE CONTROL

Rated speed rpm : 1050  
rack travel mm : 13.25  
Tolerance mm : ± 0.05

---

ANEROID/ALTITUDE  
COMPENSATOR TEST

SETTING

Rated speed rpm : 500  
Pressure hPa : 1500  
rack travel mm : 13.25  
Tolerance mm : ± 0.05

MEASUREMENT

Pressure hPa : -  
Rated speed rpm : 500  
rack travel mm : 10.00  
Tolerance mm : ± 0.20

Rated speed rpm : 500

Pressure hPa : 320  
rack travel mm : 10.50  
Tolerance mm : ± 0.20

Pressure hPa : 525  
rack travel mm : 11.75  
Tolerance mm : ± 0.05

---

FUEL DELIVERY CHARACTERISTICS

Aneroid pressure  
hPa : -  
Rated speed rpm : 1050  
Del. quantity  
cm<sup>3</sup>/1000 strokes : 222.0  
Tolerance  
cm<sup>3</sup>/1000 strokes : ± 4.0  
Check tolerance  
cm<sup>3</sup>/1000S. : ± 8.0

Aneroid pressure  
hPa : -  
Rated speed rpm : 500  
Del. quantity  
cm<sup>3</sup>/1000 strokes : 144.0  
Tolerance  
cm<sup>3</sup>/1000 strokes : ± 1.0  
Check tolerance  
cm<sup>3</sup>/1000S. : ± 4.0

---

BREAKAWAY

Rack travel in mm : 12.20  
Rated speed rpm : 1095  
Tolerance 1/min : ± 5

---

STARTING FUEL DELIVERY

Rated speed rpm : 100  
rack travel mm : 10.00  
Del. quantity  
cm<sup>3</sup>/1000 strokes : 160.0  
Tolerance  
cm<sup>3</sup>/1000 strokes : ± 20.0  
Check tolerance  
cm<sup>3</sup>/1000S. : ± 24.0

---

LOW IDLE

Rated speed rpm : 350  
rack travel mm : 4.60  
Tolerance mm : ± 0.30  
Del. quantity  
cm<sup>3</sup>/1000 strokes : 21.0  
Tolerance  
cm<sup>3</sup>/1000 strokes : ± 3.0  
Check tolerance  
cm<sup>3</sup>/1000S. : ± 6.0  
Speed  
Tolerance  
cm<sup>3</sup>/1000 strokes : 4.0  
Check tolerance  
cm<sup>3</sup>/1000S. : 8.0

# BOSCH INJ. PUMP TEST SPECIFICATIONS

## Note remarks

Refer to Service Info for test and adjustment instructions.  
See microcard(s) W400/...

Edition : 16.12.94  
Test oil : ISO 4113  
Combination No. : 0402648962  
Injection pump  
Pump designation : PE8P120A720LS7189  
: -10  
EP type number : 0412628893  
Governor  
Governor design. : RGV300...900PA795  
: -18  
Governor no. : 0421814059  
Cust. part No. : 1340520

Customer-spec. information  
Customer : SCANIA  
Motor : D 14

## TEST BENCH REQUIREMENTS

Test oil inlet  
temp. °C : 40  
Tolerance °C : + 2.0  
Overflow valve : 1417413025  
Inlet press. bar : 2.5  
Tolerance bar : + 0.1  
Test nozzle holder  
assembly : 1688901104  
Opening pressure  
bar : 251.5  
Tolerance bar : + 1.5  
Test lines : 1680750008  
Outside diameter : 6.0

x inside diameter : 2.0  
x length mm : 600

## REMARKS

Check and set without ROBO diaphragm

(A) INJECTION PUMP SETTING VALUES  
Set equal delivery quant.  
per values \_\_\_\_\_

## BEGINNING OF DELIVERY

Test pressure bar : 31.0  
Tolerance bar : + 1.0  
Prestroke mm : 5.05  
Tolerance mm : + 0.05  
test only : + 0.10  
Rack travel in mm : 10.50  
Tolerance mm : + 1.50  
Firing order : 1- 2- 7- 3- 4  
: - 5- 6- 8  
Phasing : 0-45-90-135-180  
: -225-270-315  
Tolerance : + 0.30  
Check  
tolerance °NW : + 0.75

## BEGINNING OF DELIVERY DIFFERENCE

Time to cyl. no. : 1

## BASIC SETTING

Rated speed rpm : 700  
Rack travel in mm : 12.25  
Tolerance mm : + 0.05

Del. quantity cm <sup>3</sup> /1000 strokes	: 216.0
<hr/>	
Tolerance cm <sup>3</sup> /1000 strokes	: ± 1.0
<hr/>	
Check tolerance cm <sup>3</sup> /1000S.	: ± 4.0
<hr/>	
Speed Tolerance cm <sup>3</sup> /1000 strokes	: 8.0
<hr/>	
Check tolerance cm <sup>3</sup> /1000S.	: 12.0
<hr/>	
2nd speed rpm	: 300
<hr/>	
Rack travel in mm	: 4.60
Tolerance mm	: ± 0.30
Del. quantity cm <sup>3</sup> /1000 strokes	: 21.0
Tolerance cm <sup>3</sup> /1000 strokes	: ± 3.0
Check tolerance cm <sup>3</sup> /1000S.	: ± 6.0
Speed Tolerance cm <sup>3</sup> /1000 strokes	: 4.0
Check tolerance cm <sup>3</sup> /1000S.	: 8.0

(B) SETTING OF INJECTION PUMP  
WITH GOVERNOR

GUIDE SLEEVE TRAVEL

Rated speed rpm	: 300
guide sleeve travel mm	: 1.60
Tolerance mm	: ± 0.20
<hr/>	
Rated speed rpm	: 1045
guide sleeve travel mm	: 9.50
Tolerance mm	: ± 0.20
<hr/>	
Rated speed rpm	: 350
guide sleeve travel mm	: 2.20
Tolerance mm	: ± 0.30
<hr/>	
Rated speed rpm	: 650
guide sleeve travel mm	: 5.00
Tolerance mm	: ± 0.30
<hr/>	
Rated speed rpm	: 950

guide sleeve travel mm	: 8.00
Tolerance mm	: ± 0.10

GUIDE SLEEVE POSITION

control lever position degree	: - 1
Rated speed rpm	: 1280
<hr/>	
Rack travel in mm	: 12.00
Tolerance mm	: ± 1.30

FULL LOAD DELIVERY AT FULL LOAD STOP

Rated speed rpm	: 700
Aneroid pressure hPa	: -
Del. quantity cm <sup>3</sup> /1000 strokes	: 216.0
Tolerance cm <sup>3</sup> /1000 strokes	: ± 1.0
Check tolerance cm <sup>3</sup> /1000S.	: ± 4.0
Speed Tolerance cm <sup>3</sup> /1000 strokes	: 8.0
Check tolerance cm <sup>3</sup> /1000S.	: 12.0

RATED SPEED

control lever position degree	: 46.0
tolerance degree	: ± 4.0
<hr/>	
control lever position degree	: 104.0
tolerance degree	: ± 4.0
<hr/>	
rack travel mm	: 11.20
Rated speed rpm	: 945
Tolerance 1/min	: ± 5
<hr/>	
rack travel mm	: 4.00
Rated speed rpm	: 1025
Tolerance 1/min	: ± 15
<hr/>	
rack travel mm	: 0.50
Tolerance mm	: ± 0.50
Rated speed rpm	: 1150

LOW IDLE

control lever  
position degree : 73.0  
tolerance degree : ± 4.0

control lever  
position degree : 15.0  
tolerance degree : ± 4.0

Testing:

Rated speed rpm : 300  
rack travel mm : 4.60  
Tolerance mm : ± 0.10

Rated speed rpm : 200  
CRT mm min. : > 7.50

---

CONTINUOUS-ACTION CONTROL

Rated speed rpm : 290

---

TORQUE CONTROL

Rated speed rpm : 900  
rack travel mm : 12.25  
Tolerance mm : ± 0.05

---

ANEROID/ALTITUDE  
COMPENSATOR TEST

SETTING

Rated speed rpm : 500  
Pressure hPa : 1500  
rack travel mm : 12.25  
Tolerance mm : ± 0.05

MEASUREMENT

Pressure hPa : -  
Rated speed rpm : 500  
rack travel mm : 10.00  
Tolerance mm : ± 0.20

Rated speed rpm : 500

Pressure hPa : 320  
rack travel mm : 10.50  
Tolerance mm : ± 0.20

Pressure hPa : 525  
rack travel mm : 11.75  
Tolerance mm : ± 0.05

---

FUEL DELIVERY CHARACTERISTICS

Aneroid pressure  
hPa : -  
Rated speed rpm : 900  
Del. quantity  
cm<sup>3</sup>/1000 strokes : 204.0  
Tolerance  
cm<sup>3</sup>/1000 strokes : ± 4.0  
Check tolerance  
cm<sup>3</sup>/1000S. : ± 8.0

Aneroid pressure  
hPa : -  
Rated speed rpm : 500  
Del. quantity  
cm<sup>3</sup>/1000 strokes : 144.0  
Tolerance  
cm<sup>3</sup>/1000 strokes : ± 1.0  
Check tolerance  
cm<sup>3</sup>/1000S. : ± 4.0

---

BREAKAWAY

Rack travel in mm : 11.20  
Rated speed rpm : 945  
Tolerance 1/min : ± 5

---

STARTING FUEL DELIVERY

Rated speed rpm : 100  
rack travel mm : 10.00  
Tolerance mm : ± 0.20  
Del. quantity  
cm<sup>3</sup>/1000 strokes : 160.0  
Tolerance  
cm<sup>3</sup>/1000 strokes : ± 20.0  
Check tolerance  
cm<sup>3</sup>/1000S. : ± 24.0

---

LOW IDLE

Rated speed rpm : 300  
rack travel mm : 4.60  
Tolerance mm : ± 0.30  
Del. quantity  
cm<sup>3</sup>/1000 strokes : 21.0  
Tolerance  
cm<sup>3</sup>/1000 strokes : ± 3.0  
Check tolerance  
cm<sup>3</sup>/1000S. : ± 6.0

Speed

Tolerance

cm<sup>3</sup>/1000 strokes : 4.0

Check tolerance  
cm<sup>3</sup>/1000S. : 8.0





Rack travel in mm : 13.65  
Tolerance mm : + 0.05

Del. quantity  
cm<sup>3</sup>/1000 strokes : 252.0

Tolerance  
cm<sup>3</sup>/1000 strokes : + 1.0

Check tolerance  
cm<sup>3</sup>/1000S. : + 4.0

Spreed  
Tolerance  
cm<sup>3</sup>/1000 strokes : 8.0

Check tolerance  
cm<sup>3</sup>/1000S. : 12.0

Del. quantity  
cm<sup>3</sup>/1000 strokes : 21.0

Tolerance  
cm<sup>3</sup>/1000 strokes : + 3.0

Check tolerance  
cm<sup>3</sup>/1000S. : + 6.0

Spreed  
Tolerance  
cm<sup>3</sup>/1000 strokes : 4.0  
Check tolerance  
cm<sup>3</sup>/1000S. : 8.0

(B) SETTING OF INJECTION PUMP  
WITH GOVERNOR

GUIDE SLEEVE TRAVEL

Rated speed rpm : 350  
guide sleeve  
travel mm : 1.44  
Tolerance mm : + 0.20

Rated speed rpm : 1108  
guide sleeve  
travel mm : 8.05  
Tolerance mm : + 0.15

Rated speed rpm : 781  
guide sleeve  
travel mm : 5.24  
Tolerance mm : + 0.25

Rated speed rpm : 411  
guide sleeve  
travel mm : 2.06  
Tolerance mm : + 0.25

Rated speed rpm : 461

guide sleeve  
travel mm : 2.64  
Tolerance mm : + 0.25

Rated speed rpm : 520  
guide sleeve  
travel mm : 3.19  
Tolerance mm : + 0.25

Rated speed rpm : 1390  
guide sleeve  
travel mm : 11.50  
Tolerance mm : + 0.50

GUIDE SLEEVE POSITION

control lever  
position degree : - 1  
Rated speed rpm : 1210

Rack travel in mm : 12.60  
Tolerance mm : + 1.30

FULL LOAD DELIVERY AT FULL LOAD STOP

Rated speed rpm : 700  
Aneroid pressure  
hPa : -  
Del. quantity  
cm<sup>3</sup>/1000 strokes : 252.0  
Tolerance  
cm<sup>3</sup>/1000 strokes : + 1.0  
Check tolerance  
cm<sup>3</sup>/1000S. : + 4.0  
Spreed  
Tolerance  
cm<sup>3</sup>/1000 strokes : 8.0  
Check tolerance  
cm<sup>3</sup>/1000S. : 12.0

RATED SPEED

control lever  
position degree : 48.0  
tolerance degree : + 4.0

control lever  
position degree : 107.0  
tolerance degree : + 4.0

rack travel mm : 12.60  
Rated speed rpm : 1095  
Tolerance 1/min : + 5

rack travel mm : 4.00

Rated speed rpm : 1220  
Tolerance 1/min : + 15  
  
rack travel mm : 0.50  
Tolerance mm : + 0.50  
Rated speed rpm : 1350

---

#### LOW IDLE

control lever  
position degree : 73.0  
tolerance degree : + 4.0  
  
control lever  
position degree : 15.0  
tolerance degree : + 4.0

#### Testing:

Rated speed rpm : 350  
rack travel mm : 4.60  
Tolerance mm : + 0.10  
  
Rated speed rpm : 250  
  
CRT mm min. : > 7.50

---

#### CONTINUOUS-ACTION CONTROL

Rated speed rpm : 325

---

#### TORQUE CONTROL

Rated speed rpm : 1050  
rack travel mm : 13.65  
Tolerance mm : + 0.05

---

#### ANEROID/ALTITUDE COMPENSATOR TEST

#### MEASUREMENT

Pressure hPa : 430  
rack travel mm : 10.90  
Tolerance mm : + 0.20  
  
Pressure hPa : 750  
rack travel mm : 12.65  
Tolerance mm : + 0.05

---

#### FUEL DELIVERY CHARACTERISTICS

Aneroid pressure  
hPa : -  
Rated speed rpm : 1050  
Del. quantity  
cm<sup>3</sup>/1000 strokes : 230.0  
Tolerance  
cm<sup>3</sup>/1000 strokes : + 4.0  
Check tolerance  
cm<sup>3</sup>/1000S. : + 6.0

Aneroid pressure  
hPa : -  
Rated speed rpm : 500  
Del. quantity  
cm<sup>3</sup>/1000 strokes : 144.0  
Tolerance  
cm<sup>3</sup>/1000 strokes : + 1.0  
Check tolerance  
cm<sup>3</sup>/1000S. : + 4.0

---

#### BREAKAWAY

Rack travel in mm : 12.60  
Rated speed rpm : 1095  
Tolerance 1/min : + 5

---

#### STARTING FUEL DELIVERY

Rated speed rpm : 100  
rack travel mm : 10.00  
Tolerance mm : + 0.20  
Del. quantity  
cm<sup>3</sup>/1000 strokes : 160.0  
Tolerance  
cm<sup>3</sup>/1000 strokes : + 20.0  
Check tolerance  
cm<sup>3</sup>/1000S. : + 24.0

---

#### LOW IDLE

Del. quantity  
cm<sup>3</sup>/1000 strokes : 21.0  
Tolerance  
cm<sup>3</sup>/1000 strokes : + 3.0  
Check tolerance  
cm<sup>3</sup>/1000S. : + 6.0  
Spreed  
Tolerance  
cm<sup>3</sup>/1000 strokes : 4.0  
Check tolerance  
cm<sup>3</sup>/1000S. : 8.0



BOSCH INJ. PUMP TEST SPECIFICATIONS

Note remarks

Refer to Service Info for test and adjustment instructions.  
See microcard(s) W400/...

Edition : 21.12.94  
Test oil : ISO 4113

Combination No. : 0402648973

Injection pump  
Pump designation : PE8P120A320LS7873  
EP type number : 0412628880

Governor  
Governor design. : RQ300/950PA1121  
Governor no. : 0421801701

Cust. part No. : 04221534KY0165-17

Customer-spec. information  
Customer : KHD  
Motor : BF8M1015/C  
Power KW : 400.0

TEST BENCH REQUIREMENTS

Test oil inlet  
temp. °C : 40  
Tolerance °C : ± 2.0

Overflow valve : 1417413025

Inlet press. bar : 1.5  
Tolerance bar : ± 0.1

Test nozzle holder  
assembly : 1688901105

Opening pressure  
bar : 208.5  
Tolerance bar : ± 1.5

Lube oil : 1409918004

Test lines : 1680750075

Outside diameter : 8.0  
x inside diameter : 3.0  
x length mm : 1000

REMARKS

Check electrically unlatched starting fuel delivery (EES) with 24 volt.

(A) INJECTION PUMP SETTING VALUES  
Set equal delivery quant.  
per values \_\_\_\_\_

BEGINNING OF DELIVERY

Test pressure bar : 31.0  
Tolerance bar : ± 1.0

Prestroke mm : 4.05  
Tolerance mm : ± 0.05

test only : ± 0.10

Rack travel in mm : 10.50  
Tolerance mm : ± 1.50

Firing order : 1- 8- 7- 2- 6  
                  : - 5- 4- 3

Phasing : 0-45-90-135-180  
          : -225-270-315  
Tolerance : ± 0.30  
Check  
tolerance °NW : ± 0.75

BEGINNING OF DELIVERY DIFFERENCE

Time to cyl. no. : 1

BASIC SETTING

Rated speed rpm : 950

Rack travel in mm : 15.35  
Tolerance mm : ± 0.05

<hr/>	
Del. quantity	
cm <sup>3</sup> /1000 strokes :	380.0
<hr/>	
Tolerance	
cm <sup>3</sup> /1000 strokes :	+ 1.0
<hr/>	
Check tolerance	
cm <sup>3</sup> /1000S.	: + 4.0
<hr/>	
Spreed	
Tolerance	
cm <sup>3</sup> /1000 strokes :	5.0
<hr/>	
Check tolerance	
cm <sup>3</sup> /1000S.	: 9.0
<hr/>	
2nd speed rpm	: 300
<hr/>	
Rack travel in mm :	5.00
Tolerance mm :	+ 0.10
Del. quantity	
cm <sup>3</sup> /1000 strokes :	20.0
Tolerance	
cm <sup>3</sup> /1000 strokes :	+ 3.0
Check tolerance	
cm <sup>3</sup> /1000S.	: + 6.0
Spreed	
Tolerance	
cm <sup>3</sup> /1000 strokes :	8.0
Check tolerance	
cm <sup>3</sup> /1000S.	: 12.0

(B) SETTING OF INJECTION PUMP  
WITH GOVERNOR

GUIDE SLEEVE TRAVEL

Rated speed rpm :	300
guide sleeve	
travel mm :	2.23
Tolerance mm :	+ 0.10
<hr/>	
Rated speed rpm :	1001
guide sleeve	
travel mm :	6.36
Tolerance mm :	+ 0.10
<hr/>	
Rated speed rpm :	950
guide sleeve	
travel mm :	6.00
Tolerance mm :	+ 0.10
<hr/>	
Rated speed rpm :	385
guide sleeve	
travel mm :	5.22
Tolerance mm :	+ 0.10

Rated speed rpm :	450
guide sleeve	
travel mm :	6.00
Tolerance mm :	+ 0.10

Rated speed rpm :	1150
guide sleeve	
travel mm :	11.50
Tolerance mm :	+ 0.50

GUIDE SLEEVE POSITION

control lever	
position degree :	- 1
Rated speed rpm :	700

Rack travel in mm :	20.00
Tolerance mm :	+ 0.80

FULL LOAD DELIVERY AT FULL LOAD STOP

Rated speed rpm :	950
Aneroid pressure	
hPa :	1600
Del. quantity	
cm <sup>3</sup> /1000 strokes :	380.0
Tolerance	
cm <sup>3</sup> /1000 strokes :	+ 1.0
Check tolerance	
cm <sup>3</sup> /1000S.	: + 4.0
Spreed	
Tolerance	
cm <sup>3</sup> /1000 strokes :	5.0
Check tolerance	
cm <sup>3</sup> /1000S.	: 9.0

RATED SPEED

control lever	
position degree :	103.0
tolerance degree :	+ 4.0
<hr/>	
rack travel mm :	14.30
Rated speed rpm :	995
Tolerance 1/min :	+ 5
<hr/>	
rack travel mm :	4.00
Rated speed rpm :	1070
Tolerance 1/min :	+ 15
<hr/>	
rack travel mm :	0.50
Tolerance mm :	+ 0.50
Rated speed rpm :	1150

---

LOW IDLE

control lever  
position degree : 75.0  
tolerance degree : ± 4.0

Testing:

Rated speed rpm : 300  
rack travel mm : 5.00  
Tolerance mm : ± 0.10

rack travel mm : 2.00  
Rated speed rpm : 360  
Tolerance 1/min : ± 20

Rated speed rpm : 200

CRT mm min. : > 7.30

---

TORQUE CONTROL

Rated speed rpm : 950  
rack travel mm : 15.35  
Tolerance mm : ± 0.05

---

ANEROID/ALTITUDE  
COMPENSATOR TEST

SETTING

Rated speed rpm : 400  
Pressure hPa : 1600  
rack travel mm : 15.35  
Tolerance mm : ± 0.05

MEASUREMENT

Pressure hPa : -  
Rated speed rpm : 400  
rack travel mm : 9.40  
Tolerance mm : ± 0.20

Rated speed rpm : 400

Pressure hPa : 570  
rack travel mm : 11.85  
Tolerance mm : ± 0.20

Pressure hPa : 1150  
rack travel mm : 14.45  
Tolerance mm : ± 0.05

---

---

START CUT-OUT

Rated speed rpm : > 100  
Check  
speed 1/min : > 80  
Rated speed rpm : < 220  
Check  
speed 1/min : < 240

---

FUEL DELIVERY CHARACTERISTICS

Aneroid pressure  
hPa : -  
Rated speed rpm : 400  
Del. quantity  
cm<sup>3</sup>/1000 strokes : 250.0  
Tolerance  
cm<sup>3</sup>/1000 strokes : ± 1.0  
Check tolerance  
cm<sup>3</sup>/1000S. : ± 4.0

---

BREAKAWAY

Rack travel in mm : 14.30  
Rated speed rpm : 995  
Tolerance 1/min : ± 5

---

STARTING FUEL DELIVERY

Rated speed rpm : 100  
rack travel mm : 20.25  
Tolerance mm : ± 0.75  
Del. quantity  
cm<sup>3</sup>/1000 strokes : 220.0  
Tolerance  
cm<sup>3</sup>/1000 strokes : ± 20.0  
Check tolerance  
cm<sup>3</sup>/1000S. : ± 24.0

---

LOW IDLE

Rated speed rpm : 300  
rack travel mm : 5.00  
Tolerance mm : ± 0.10  
Del. quantity  
cm<sup>3</sup>/1000 strokes : 20.0  
Tolerance  
cm<sup>3</sup>/1000 strokes : ± 3.0  
Check tolerance  
cm<sup>3</sup>/1000S. : ± 6.0

---

Spreed  
Tolerance  
cm<sup>3</sup>/1000 strokes : 8.0  
Check tolerance  
cm<sup>3</sup>/1000S. : 12.0



BOSCH INJ. PUMP TEST SPECIFICATIONS

Note remarks

Refer to Service Info for test and adjustment instructions.  
See microcard(s) W400/...

Edition : 15.12.94  
Test oil : ISO 4113  
Combination No. : 0402648974  
Injection pump  
Pump designation : PE8P120A320LS7875  
EP type number : 0412628881  
Governor  
Governor design. : RQ250/1150PA1122  
Governor no. : 0421801704

Cust. part No. :

Customer-spec. information  
Customer : DAEWOO  
Motor : V2-8TC

TEST BENCH REQUIREMENTS

Test oil inlet  
temp. °C : 40  
Tolerance °C : ± 2.0  
Overflow valve : 1417413025  
Inlet press. bar : 1.5  
Tolerance bar : ± 0.1  
Test nozzle holder  
assembly : 1688901105  
Opening pressure  
bar : 208.5  
Tolerance bar : ± 1.5  
Lube oil : 1409918004  
Test lines : 1680750089  
Outside diameter : 8.0

x inside diameter : 3.0  
x length mm : 600

REMARKS

(A) INJECTION PUMP SETTING VALUES  
Set equal delivery quant.  
per values \_\_\_\_\_

BEGINNING OF DELIVERY

Test pressure bar : 31.0  
Tolerance bar : ± 1.0  
Prestroke mm : 5.20  
Tolerance mm : ± 0.05  
test only : ± 0.10  
Rack travel in mm : 16.00  
Tolerance mm : ± 1.50  
Firing order : 8- 7- 2- 6- 3  
                  : - 5- 4- 1

Phasing : 0-45-90-135-180  
          : -225-270-315  
Tolerance : ± 0.30  
Check  
tolerance °NW : ± 0.75

BEGINNING OF DELIVERY DIFFERENCE

Time to cyl. no. : 8

BASIC SETTING

Rated speed rpm : 1150  
Rack travel in mm : 13.60  
Tolerance mm : ± 0.05  
Del. quantity  
cm<sup>3</sup>/1000 strokes : 208.0

<hr/>	
Tolerance	
cm <sup>3</sup> /1000 strokes	: +- 1.0
<hr/>	
Check tolerance	
cm <sup>3</sup> /1000S.	: +- 4.0
<hr/>	
Speed	
Tolerance	
cm <sup>3</sup> /1000 strokes	: 7.0
<hr/>	
Check tolerance	
cm <sup>3</sup> /1000S.	: 10.0
<hr/>	
2nd speed rpm	: 300
<hr/>	
Rack travel in mm	: 5.80
Tolerance mm	: +- 0.20
Del. quantity	
cm <sup>3</sup> /1000 strokes	: 18.0
Tolerance	
cm <sup>3</sup> /1000 strokes	: +- 3.0
Check tolerance	
cm <sup>3</sup> /1000S.	: +- 6.0
<hr/>	
Speed	
Tolerance	
cm <sup>3</sup> /1000 strokes	: 5.0
Check tolerance	
cm <sup>3</sup> /1000S.	: 8.0

(B) SETTING OF INJECTION PUMP WITH GOVERNOR

GUIDE SLEEVE TRAVEL

Rated speed rpm	: 300
guide sleeve	
travel mm	: 2.39
Tolerance mm	: +- 0.10
<hr/>	
Rated speed rpm	: 1207
guide sleeve	
travel mm	: 6.36
Tolerance mm	: +- 0.10
<hr/>	
Rated speed rpm	: 650
guide sleeve	
travel mm	: 6.00
Tolerance mm	: +- 0.10
<hr/>	
Rated speed rpm	: 382
guide sleeve	
travel mm	: 5.26
Tolerance mm	: +- 0.10
<hr/>	
Rated speed rpm	: 450
guide sleeve	
travel mm	: 6.00

Tolerance mm	: +- 0.10
<hr/>	
Rated speed rpm	: 1370
guide sleeve	
travel mm	: 11.50
Tolerance mm	: +- 0.50

GUIDE SLEEVE POSITION

Rated speed rpm	: 600
<hr/>	
Rack travel in mm	: 20.00
Tolerance mm	: +- 0.80

FULL LOAD DELIVERY AT FULL LOAD STOP

Rated speed rpm	: 1150
Aneroid pressure	
hPa	: -
Del. quantity	
cm <sup>3</sup> /1000 strokes	: 208.0
Tolerance	
cm <sup>3</sup> /1000 strokes	: +- 1.0
Check tolerance	
cm <sup>3</sup> /1000S.	: +- 4.0
<hr/>	
Speed	
Tolerance	
cm <sup>3</sup> /1000 strokes	: 7.0
Check tolerance	
cm <sup>3</sup> /1000S.	: 10.0

RATED SPEED

control lever	
position degree	: 34.0
tolerance degree	: +- 4.0
<hr/>	
control lever	
position degree	: 95.0
tolerance degree	: +- 4.0
<hr/>	
rack travel mm	: 12.60
Rated speed rpm	: 1202
Tolerance 1/min	: +- 8
<hr/>	
rack travel mm	: 4.00
Rated speed rpm	: 1280
Tolerance 1/min	: +- 15
<hr/>	
rack travel mm	: 0.50
Tolerance mm	: +- 0.50
Rated speed rpm	: 1350

LOW IDLE

control lever  
position degree : 75.0  
tolerance degree : ± 4.0

control lever  
position degree : 14.0  
tolerance degree : ± 4.0

#### Testing:

Rated speed rpm : 300  
rack travel mm : 5.80  
Tolerance mm : ± 0.10

rack travel mm : 2.00  
Rated speed rpm : 375  
Tolerance 1/min : ± 20

Rated speed rpm : 200

CRT mm min. : > 8.60

---

#### TORQUE CONTROL

Rated speed rpm : 650  
rack travel mm : 13.60  
Tolerance mm : ± 0.05

---

#### ANEROID/ALTITUDE COMPENSATOR TEST

#### SETTING

Rated speed rpm : 500  
Pressure hPa : 1500  
rack travel mm : 13.60  
Tolerance mm : ± 0.05

#### MEASUREMENT

Pressure hPa : -  
Rated speed rpm : 500  
rack travel mm : 9.00  
Tolerance mm : ± 0.20

Rated speed rpm : 500

Pressure hPa : 650  
rack travel mm : 12.50  
Tolerance mm : ± 0.20

Pressure hPa : 250  
rack travel mm : 10.00  
Tolerance mm : ± 0.05

---

#### START CUT-OUT

Rated speed rpm : > 100  
Check  
speed 1/min : > 80  
Rated speed rpm : < 220  
Check  
speed 1/min : < 240

---

#### FUEL DELIVERY CHARACTERISTICS

Aneroid pressure  
hPa : -  
Rated speed rpm : 650  
Del. quantity  
cm<sup>3</sup>/1000 strokes : 226.0  
Tolerance  
cm<sup>3</sup>/1000 strokes : ± 3.0  
Check tolerance  
cm<sup>3</sup>/1000S. : ± 6.0

Aneroid pressure  
hPa : -  
Rated speed rpm : 500  
Del. quantity  
cm<sup>3</sup>/1000 strokes : 137.0  
Tolerance  
cm<sup>3</sup>/1000 strokes : ± 1.0  
Check tolerance  
cm<sup>3</sup>/1000S. : ± 4.0

---

#### BREAKAWAY

Rack travel in mm : 12.60  
Rated speed rpm : 1202  
Tolerance 1/min : ± 8

---

#### STARTING FUEL DELIVERY

Del. quantity  
cm<sup>3</sup>/1000 strokes : 203.0  
Tolerance  
cm<sup>3</sup>/1000 strokes : ± 10.0  
Check tolerance  
cm<sup>3</sup>/1000S. : ± 14.0

---

#### LOW IDLE

Rated speed rpm : 300  
rack travel mm : 5.80

Tolerance mm : +- 0.20  
Del. quantity  
cm<sup>3</sup>/1000 strokes : 18.0  
Tolerance  
cm<sup>3</sup>/1000 strokes : +- 3.0  
Check tolerance  
cm<sup>3</sup>/1000S. : +- 6.0  
Spreed  
Tolerance  
cm<sup>3</sup>/1000 strokes : 5.0  
Check tolerance  
cm<sup>3</sup>/1000S. : 8.0





BOSCH INJ. PUMP TEST SPECIFICATIONS

Note remarks

Refer to Service Info for test and adjustment instructions.  
See microcard(s) W400/...

Edition : 12.12.94  
Test oil : ISO 4113  
Combination No. : 0402678818  
Injection pump  
Pump designation : PE8P120A720LS7189  
: -10  
EP type number : 0412628893  
Governor  
Governor design. : RSV350...1050P1A512  
: -4  
Governor no. : 0421833384  
Cust. part No. : 1340526

Customer-spec. information  
Customer : SCANIA  
Motor : D 14

TEST BENCH REQUIREMENTS

Test oil inlet  
temp. °C : 40  
Tolerance °C : +- 2.0  
Overflow valve : 1417413025  
Inlet press. bar : 2.5  
Tolerance bar : +- 0.1  
Test nozzle holde  
assembly : 1688901104  
Opening pressure  
bar : 251.5  
Tolerance bar : +- 1.5  
Test lines : 1680750008  
Outside diameter : 6.0

F03

x inside diameter : 2.0  
x length mm : 600

REMARKS

Check and set without ROBO diaphragam

(A) INJECTION PUMP SETTING VALUES  
Set equal delivery quant.  
per values \_\_\_\_\_

BEGINNING OF DELIVERY

Test pressure bar : 31.0  
Tolerance bar : +- 1.0

Prestroke mm : 5.05  
Tolerance mm : +- 0.05

test only : +- 0.10

Rack travel in mm : 10.50  
Tolerance mm : +- 1.50

Firing order : 1- 2- 7- 3- 4  
: - 5- 6- 8

Phasing : 0-45-90-135-180  
: -225-270-315  
Tolerance : +- 0.30  
Check  
tolerance °NW : +- 0.75

BEGINNING OF DELIVERY DIFFERENCE

Time to cyl. no. : 1

BASIC SETTING

Rated speed rpm : 700

Rack travel in mm : 12.25  
Tolerance mm : +- 0.05

Del. quantity cm <sup>3</sup> /1000 strokes	: 216.0
<hr/>	
Tolerance cm <sup>3</sup> /1000 strokes	: +- 1.0
<hr/>	
Check tolerance cm <sup>3</sup> /1000S.	: +- 4.0
<hr/>	
Spreed Tolerance cm <sup>3</sup> /1000 strokes	: 8.0
<hr/>	
Check tolerance cm <sup>3</sup> /1000S.	: 12.0
2nd speed rpm	: 350
Rack travel in mm	: 4.60
Tolerance mm	: +- 0.30
Del. quantity cm <sup>3</sup> /1000 strokes	: 21.0
Tolerance cm <sup>3</sup> /1000 strokes	: +- 3.0
Check tolerance cm <sup>3</sup> /1000S.	: +- 6.0
Spreed Tolerance cm <sup>3</sup> /1000 strokes	: 4.0
Check tolerance cm <sup>3</sup> /1000S.	: 8.0

(B) SETTING OF INJECTION PUMP  
WITH GOVERNOR

GUIDE SLEEVE POSITION

control lever position degree	: - 3
Rated speed rpm	: 800
Rack travel in mm	: 0.50
Tolerance mm	: +- 0.20
governor spring pre-tension click setting x	: 6.00

FULL LOAD DELIVERY AT FULL LOAD STOP

Rated speed rpm	: 700
Aneroid pressure hPa	: -
Del. quantity cm <sup>3</sup> /1000 strokes	: 216.0

Tolerance cm <sup>3</sup> /1000 strokes	: +- 1.0
Check tolerance cm <sup>3</sup> /1000S.	: +- 4.0
Spreed Tolerance cm <sup>3</sup> /1000 strokes	: 8.0
Check tolerance cm <sup>3</sup> /1000S.	: 12.0

RATED SPEED

control lever position degree	: 63.0
tolerance degree	: +- 4.0

control lever position degree	: 113.0
tolerance degree	: +- 4.0

rack travel mm	: 11.20
Rated speed rpm	: 1095
Tolerance 1/min	: +- 5

rack travel mm	: 4.00
Rated speed rpm	: 1165
Tolerance 1/min	: +- 15

rack travel mm	: 0.85
Tolerance mm	: +- 0.55
Rated speed rpm	: 1300

LOW IDLE

control lever position degree	: 80.0
tolerance degree	: +- 4.0

control lever position degree	: 30.0
tolerance degree	: +- 4.0

Setting point w/out bumper spring

Rated speed rpm	: 350
rack travel mm	: 4.10

Testing:

Rated speed rpm	: 350
rack travel mm	: 4.60
Tolerance mm	: +- 0.10

rack travel mm	: 2.00
Rated speed rpm	: 475
Tolerance 1/min	: +- 30

Rated speed rpm : 100  
CRT mm min. : > 19.50

---

TORQUE CONTROL

Rated speed rpm : 1050  
rack travel mm : 12.25  
Tolerance mm : ± 0.05

---

ANEROID/ALTITUDE  
COMPENSATOR TEST

SETTING

Rated speed rpm : 500  
Pressure hPa : 1500  
rack travel mm : 12.25  
Tolerance mm : ± 0.05

MEASUREMENT

Pressure hPa : -  
Rated speed rpm : 500  
rack travel mm : 10.00  
Tolerance mm : ± 0.20

Rated speed rpm : 500

Pressure hPa : 320  
rack travel mm : 10.50  
Tolerance mm : ± 0.20

Pressure hPa : 525  
rack travel mm : 11.75  
Tolerance mm : ± 0.05

---

FUEL DELIVERY CHARACTERISTICS

Aneroid pressure  
hPa : -  
Rated speed rpm : 1050  
Del. quantity  
cm<sup>3</sup>/1000 strokes : 199.0  
Tolerance  
cm<sup>3</sup>/1000 strokes : ± 4.0  
Check tolerance  
cm<sup>3</sup>/1000S. : ± 6.0

Aneroid pressure  
hPa : -  
Rated speed rpm : 500  
Del. quantity  
cm<sup>3</sup>/1000 strokes : 144.0

Tolerance  
cm<sup>3</sup>/1000 strokes : ± 1.0  
Check tolerance  
cm<sup>3</sup>/1000S. : ± 4.0

---

BREAKAWAY

Rack travel in mm : 11.20  
Rated speed rpm : 1095  
Tolerance 1/min : ± 5

---

STARTING FUEL DELIVERY

Rated speed rpm : 100  
rack travel mm : 10.00  
Tolerance mm : ± 0.20  
Del. quantity  
cm<sup>3</sup>/1000 strokes : 160.0  
Tolerance  
cm<sup>3</sup>/1000 strokes : ± 20.0  
Check tolerance  
cm<sup>3</sup>/1000S. : ± 24.0

---

LOW IDLE

Rated speed rpm : 350  
rack travel mm : 4.60  
Tolerance mm : ± 0.30  
Del. quantity  
cm<sup>3</sup>/1000 strokes : 21.0  
Tolerance  
cm<sup>3</sup>/1000 strokes : ± 3.0  
Check tolerance  
cm<sup>3</sup>/1000S. : ± 6.0  
Spreed  
Tolerance  
cm<sup>3</sup>/1000 strokes : 4.0  
Check tolerance  
cm<sup>3</sup>/1000S. : 8.0

BOSCH INJ. PUMP TEST SPECIFICATIONS

Note remarks

Refer to Service Info for test and adjustment instructions.  
See microcard(s) W400/...

Edition : 21.12.94  
Test oil : ISO 4113  
  
Combination No. : 0402735809  
  
Injection pump  
Pump designation : PES5P120A720/3LS7310  
EP type number : 0412725817  
  
Governor  
Governor design. : RQ325/1000PA1106  
Governor no. : 0421801698

Cust. part No. : 3-7302

Customer-spec. information  
Customer : MAN  
Motor : D2865LUH05  
Power KW : 198.0

TEST BENCH REQUIREMENTS

Test oil inlet  
temp. °C : 40  
Tolerance °C : ± 2.0

Overflow valve : 1417413025

Inlet press. bar : 1.5  
Tolerance bar : ± 0.1

Overflow quantity  
min. l/h : 115  
Tolerance l/h : ± 20.0

Test nozzle holde  
assembly : 1688901105

Opening pressure  
bar : 208.5  
Tolerance bar : ± 1.5

Test lines : 1680750089  
Outside diameter : 8.0  
x inside diameter : 3.0  
x length mm : 600

REMARKS

(A) INJECTION PUMP SETTING VALUES  
Set equal delivery quant.  
per values \_\_\_\_\_

BEGINNING OF DELIVERY

Test pressure bar : 31.0  
Tolerance bar : ± 1.0

Prestroke mm : 5.15  
Tolerance mm : ± 0.05

test only : ± 0.10

Rack travel in mm : 12.80  
Tolerance mm : ± 0.50

Firing order : 1- 3- 5- 4- 2

Phasing : 0-72-144-216-288  
Tolerance : ± 0.30  
Check  
tolerance °NW : ± 0.75

BEGINNING OF DELIVERY DIFFERENCE

Time to cyl. no. : 5  
S.o.d. blocking  
Barrel no. : 5

BASIC SETTING

Rated speed rpm : 550

Rack travel in mm : 11.50

Tolerance mm : + 0.05

---

Del. quantity  
cm<sup>3</sup>/1000 strokes : 252.0

---

Tolerance  
cm<sup>3</sup>/1000 strokes : + 1.0

---

Check tolerance  
cm<sup>3</sup>/1000S. : + 4.0

---

Spread  
Tolerance  
cm<sup>3</sup>/1000 strokes : 5.0

---

Check tolerance  
cm<sup>3</sup>/1000S. : 9.0

2nd speed rpm : 325

Rack travel in mm : 4.80  
Tolerance mm : + 0.20

Del. quantity  
cm<sup>3</sup>/1000 strokes : 35.0  
Tolerance  
cm<sup>3</sup>/1000 strokes : + 3.0  
Check tolerance  
cm<sup>3</sup>/1000S. : + 6.0

Spread  
Tolerance  
cm<sup>3</sup>/1000 strokes : 8.0  
Check tolerance  
cm<sup>3</sup>/1000S. : 12.0

(B) SETTING OF INJECTION PUMP  
WITH GOVERNOR

GUIDE SLEEVE TRAVEL

Rated speed rpm : 325  
guide sleeve  
travel mm : 2.70  
Tolerance mm : + 0.10

Rated speed rpm : 1059  
guide sleeve  
travel mm : 7.62  
Tolerance mm : + 0.10

Rated speed rpm : 1000  
guide sleeve  
travel mm : 7.30  
Tolerance mm : + 0.10

Rated speed rpm : 769  
guide sleeve  
travel mm : 7.08  
Tolerance mm : + 0.10

Rated speed rpm : 399  
guide sleeve  
travel mm : 4.44  
Tolerance mm : + 0.10

Rated speed rpm : 530  
guide sleeve  
travel mm : 7.00  
Tolerance mm : + 0.10

Rated speed rpm : 1210  
guide sleeve  
travel mm : 11.50  
Tolerance mm : + 0.50

Rated speed rpm : 802  
guide sleeve  
travel mm : 7.23  
Tolerance mm : + 0.10

GUIDE SLEEVE POSITION

Rated speed rpm : 700

Rack travel in mm : 15.50  
Tolerance mm : + 0.80

FULL LOAD DELIVERY AT FULL LOAD STOP

Rated speed rpm : 550  
Aneroid pressure  
hPa : 900  
Del. quantity  
cm<sup>3</sup>/1000 strokes : 252.0  
Tolerance  
cm<sup>3</sup>/1000 strokes : + 1.0  
Check tolerance  
cm<sup>3</sup>/1000S. : + 4.0

Spread  
Tolerance  
cm<sup>3</sup>/1000 strokes : 5.0  
Check tolerance  
cm<sup>3</sup>/1000S. : 9.0

RATED SPEED

control lever  
position degree : 103.0  
tolerance degree : + 4.0

rack travel mm : 12.00  
Rated speed rpm : 1053  
Tolerance 1/min : + 8

rack travel mm : 4.00

Rated speed rpm : 1130  
Tolerance 1/min : ± 15

rack travel mm : 0.50  
Tolerance mm : ± 0.50  
Rated speed rpm : 1250

---

#### LOW IDLE

control lever  
position degree : 73.0  
tolerance degree : ± 4.0

#### Testing:

Rated speed rpm : 325  
rack travel mm : 4.80  
Tolerance mm : ± 0.10

rack travel mm : 2.00  
Rated speed rpm : 390  
Tolerance 1/min : ± 20

Rated speed rpm : 200

CRT mm min. : > 6.50

---

#### TORQUE CONTROL

Rated speed rpm : 550  
rack travel mm : 11.50  
Tolerance mm : ± 0.05

Rated speed rpm : 1000  
rack travel mm : 13.00  
Tolerance mm : ± 0.10

Rated speed rpm : 750  
rack travel mm : 13.00  
Tolerance mm : ± 0.10

---

#### ANEROID/ALTITUDE COMPENSATOR TEST

#### SETTING

Rated speed rpm : 500  
Pressure hPa : 900  
rack travel mm : 11.50  
Tolerance mm : ± 0.05

#### MEASUREMENT

Rated speed rpm : 500

Pressure hPa : 250  
rack travel mm : 9.20  
Tolerance mm : ± 0.05

Pressure hPa : 2000  
rack travel mm : 13.00  
Tolerance mm : ± 0.05

Pressure hPa : 1150  
rack travel mm : 11.80  
Tolerance mm : ± 0.10

Pressure hPa : 600  
rack travel mm : 10.95  
Tolerance mm : ± 0.15

---

#### FUEL DELIVERY CHARACTERISTICS

Aneroid pressure  
hPa : 2000  
Rated speed rpm : 1000  
Del. quantity  
cm<sup>3</sup>/1000 strokes : 266.0  
Tolerance  
cm<sup>3</sup>/1000 strokes : ± 3.0  
Check tolerance  
cm<sup>3</sup>/1000S. : ± 6.0

Aneroid pressure  
hPa : 2000  
Rated speed rpm : 750  
Del. quantity  
cm<sup>3</sup>/1000 strokes : 286.0  
Tolerance  
cm<sup>3</sup>/1000 strokes : ± 2.0  
Check tolerance  
cm<sup>3</sup>/1000S. : ± 5.0

Aneroid pressure  
hPa : -  
Rated speed rpm : 500  
Del. quantity  
cm<sup>3</sup>/1000 strokes : 150.0  
Tolerance  
cm<sup>3</sup>/1000 strokes : ± 1.0  
Check tolerance  
cm<sup>3</sup>/1000S. : ± 4.0

---

#### BREAKAWAY

Rack travel in mm : 12.00  
Rated speed rpm : 1053  
Tolerance 1/min : ± 8

---

STARTING FUEL DELIVERY

Rated speed rpm : 100  
rack travel mm : 8.90  
Tolerance mm :  $\pm$  0.20  
Del. quantity  
cm<sup>3</sup>/1000 strokes : 75.0  
Tolerance  
cm<sup>3</sup>/1000 strokes :  $\pm$  10.0  
Check tolerance  
cm<sup>3</sup>/1000S. :  $\pm$  14.0

---

LOW IDLE

Rated speed rpm : 325  
rack travel mm : 4.80  
Tolerance mm :  $\pm$  0.20  
Del. quantity  
cm<sup>3</sup>/1000 strokes : 35.0  
Tolerance  
cm<sup>3</sup>/1000 strokes :  $\pm$  3.0  
Check tolerance  
cm<sup>3</sup>/1000S. :  $\pm$  6.0  
Spreed  
Tolerance  
cm<sup>3</sup>/1000 strokes : 8.0  
Check tolerance  
cm<sup>3</sup>/1000S. : 12.0

BOSCH INJ. PUMP TEST SPECIFICATIONS

Note remarks

Refer to Service Info for test and adjustment instructions.  
See microcard(s) W400/...

Edition : 21.12.94  
Test oil : ISO 4113  
Combination No. : 0402735815  
Injection pump  
Pump designation : PES5P120A720/3LS7310  
: -1  
EP type number : 0412725820  
Governor  
Governor design. : RQ325/1000PA1106  
Governor no. : 0421801698  
Cust. part No. : 51.11103-7350

Customer-spec. information  
Customer : MAN  
Motor : D2865LUH05  
Power kW : 198.0

TEST BENCH REQUIREMENTS

Test oil inlet  
temp. °C : 40  
Tolerance °C : + 2.0  
Overflow valve : 1417413025  
Inlet press. bar : 1.5  
Tolerance bar : + 0.1  
Overflow quantity  
min. l/h : 115  
Tolerance l/h : + 20.0  
Test nozzle holder  
assembly : 1688901105  
Opening pressure  
bar : 208.5  
Tolerance bar : + 1.5

Test lines : 1680750089  
Outside diameter : 8.0  
x inside diameter : 3.0  
x length mm : 600

REMARKS

(A) INJECTION PUMP SETTING VALUES  
Set equal delivery quant.  
per values \_\_\_\_\_

BEGINNING OF DELIVERY

Test pressure bar : 31.0  
Tolerance bar : + 1.0  
Prestroke mm : 5.15  
Tolerance mm : + 0.05  
test only : + 0.10  
Rack travel in mm : 12.80  
Tolerance mm : + 0.50  
Firing order : 1- 3- 5- 4- 2  
Phasing : 0-72-144-216-288  
Tolerance : + 0.30  
Check  
tolerance °NW : + 0.75

BEGINNING OF DELIVERY DIFFERENCE

Time to cyl. no. : 5  
S.o.d. blocking  
Barrel no. : 5

BASIC SETTING

Rated speed rpm : 550  
Rack travel in mm : 11.50



Tolerance mm :  $\pm$  0.05

---

Del. quantity  
cm<sup>3</sup>/1000 strokes : 252.0

---

Tolerance  
cm<sup>3</sup>/1000 strokes :  $\pm$  1.0

---

Check tolerance  
cm<sup>3</sup>/1000S. :  $\pm$  4.0

---

Speed  
Tolerance  
cm<sup>3</sup>/1000 strokes : 5.0

---

Check tolerance  
cm<sup>3</sup>/1000S. : 9.0

2nd speed rpm : 325

Rack travel in mm : 4.80  
Tolerance mm :  $\pm$  0.20

Del. quantity  
cm<sup>3</sup>/1000 strokes : 35.0  
Tolerance  
cm<sup>3</sup>/1000 strokes :  $\pm$  3.0  
Check tolerance  
cm<sup>3</sup>/1000S. :  $\pm$  6.0

Speed  
Tolerance  
cm<sup>3</sup>/1000 strokes : 8.0  
Check tolerance  
cm<sup>3</sup>/1000S. : 12.0

(B) SETTING OF INJECTION PUMP  
WITH GOVERNOR

GUIDE SLEEVE TRAVEL

Rated speed rpm : 325  
guide sleeve  
travel mm : 2.49  
Tolerance mm :  $\pm$  0.10

Rated speed rpm : 1059  
guide sleeve  
travel mm : 7.34  
Tolerance mm :  $\pm$  0.10

Rated speed rpm : 1000  
guide sleeve  
travel mm : 7.01  
Tolerance mm :  $\pm$  0.10

Rated speed rpm : 777  
guide sleeve  
travel mm : 7.01  
Tolerance mm :  $\pm$  0.10

Rated speed rpm : 399  
guide sleeve  
travel mm : 4.24  
Tolerance mm :  $\pm$  0.10

Rated speed rpm : 540  
guide sleeve  
travel mm : 7.00  
Tolerance mm :  $\pm$  0.10

Rated speed rpm : 1210  
guide sleeve  
travel mm : 11.50  
Tolerance mm :  $\pm$  0.50

GUIDE SLEEVE POSITION

Rated speed rpm : 700  
Rack travel in mm : 15.50  
Tolerance mm :  $\pm$  0.80

FULL LOAD DELIVERY AT FULL LOAD STOP

Rated speed rpm : 550  
Aneroid pressure  
hPa : 900  
Del. quantity  
cm<sup>3</sup>/1000 strokes : 252.0  
Tolerance  
cm<sup>3</sup>/1000 strokes :  $\pm$  1.0  
Check tolerance  
cm<sup>3</sup>/1000S. :  $\pm$  4.0  
Speed  
Tolerance  
cm<sup>3</sup>/1000 strokes : 5.0  
Check tolerance  
cm<sup>3</sup>/1000S. : 9.0

RATED SPEED

control lever  
position degree : 103.0  
tolerance degree :  $\pm$  4.0

rack travel mm : 12.00  
Rated speed rpm : 1053  
Tolerance 1/min :  $\pm$  8

rack travel mm : 4.00  
Rated speed rpm : 1130  
Tolerance 1/min :  $\pm$  15

rack travel mm : 0.50  
Tolerance mm :  $\pm$  0.50

Rated speed rpm : 1250

---

LOW IDLE

control lever  
position degree : 73.0  
tolerance degree :  $\pm$  4.0

Testing:

Rated speed rpm : 325  
rack travel mm : 4.80  
Tolerance mm :  $\pm$  0.10

rack travel mm : 2.00  
Rated speed rpm : 390  
Tolerance 1/min :  $\pm$  20

Rated speed rpm : 200

CRT mm min. :  $>$  6.50

---

TORQUE CONTROL

Rated speed rpm : 550  
rack travel mm : 11.50  
Tolerance mm :  $\pm$  0.05

Rated speed rpm : 1000  
rack travel mm : 13.00  
Tolerance mm :  $\pm$  0.10

Rated speed rpm : 750  
rack travel mm : 13.00  
Tolerance mm :  $\pm$  0.10

---

ANEROID/ALTITUDE  
COMPENSATOR TEST

SETTING

Rated speed rpm : 500  
Pressure hPa : 900  
rack travel mm : 11.50  
Tolerance mm :  $\pm$  0.05

MEASUREMENT

Rated speed rpm : 500

Pressure hPa : 250  
rack travel mm : 9.20  
Tolerance mm :  $\pm$  0.05

Pressure hPa : 2000

rack travel mm : 13.00  
Tolerance mm :  $\pm$  0.05

Pressure hPa : 1150  
rack travel mm : 11.80  
Tolerance mm :  $\pm$  0.10

Pressure hPa : 600  
rack travel mm : 10.95  
Tolerance mm :  $\pm$  0.15

---

FUEL DELIVERY CHARACTERISTICS

Aneroid pressure  
hPa : 2000  
Rated speed rpm : 1000  
Del. quantity  
cm<sup>3</sup>/1000 strokes : 266.0  
Tolerance  
cm<sup>3</sup>/1000 strokes :  $\pm$  3.0  
Check tolerance  
cm<sup>3</sup>/1000S. :  $\pm$  6.0

Aneroid pressure  
hPa : 2000  
Rated speed rpm : 750  
Del. quantity  
cm<sup>3</sup>/1000 strokes : 286.0  
Tolerance  
cm<sup>3</sup>/1000 strokes :  $\pm$  2.0  
Check tolerance  
cm<sup>3</sup>/1000S. :  $\pm$  5.0

Aneroid pressure  
hPa : -  
Rated speed rpm : 500  
Del. quantity  
cm<sup>3</sup>/1000 strokes : 150.0  
Tolerance  
cm<sup>3</sup>/1000 strokes :  $\pm$  1.0  
Check tolerance  
cm<sup>3</sup>/1000S. :  $\pm$  4.0

---

BREAKAWAY

Rack travel in mm : 12.00  
Rated speed rpm : 1053  
Tolerance 1/min :  $\pm$  8

---

STARTING FUEL DELIVERY

Rated speed rpm : 100  
rack travel mm : 8.90  
Tolerance mm :  $\pm$  0.20

Del. quantity  
cm<sup>3</sup>/1000 strokes : 75.0  
Tolerance  
cm<sup>3</sup>/1000 strokes : ± 10.0  
Check tolerance  
cm<sup>3</sup>/1000S. : ± 14.0

---

LOW IDLE

Rated speed rpm : 325  
rack travel mm : 4.80  
Tolerance mm : ± 0.20  
Del. quantity  
cm<sup>3</sup>/1000 strokes : 35.0  
Tolerance  
cm<sup>3</sup>/1000 strokes : ± 3.0  
Check tolerance  
cm<sup>3</sup>/1000S. : ± 6.0  
Spreed  
Tolerance  
cm<sup>3</sup>/1000 strokes : 8.0  
Check tolerance  
cm<sup>3</sup>/1000S. : 12.0

BOSCH INJ. PUMP TEST SPECIFICATIONS

Note remarks

Refer to Service Info for test and adjustment instructions.  
See microcard(s) W400/...

Edition : 02.12.94  
Test oil : ISO 4113  
Combination No. : 0402746883  
Injection pump  
Pump designation : PES6P110A320RS7198  
EP type number : 0412716802  
Governor  
Governor design. : RQV275...1250PA942K  
Governor no. : 0421815234

Cust. part No. : CCEP 5097A

Customer-spec. information  
Customer : RVI  
Motor : MIDR 06.02.26 L  
Power KW : 132.5

TEST BENCH REQUIREMENTS

Test oil inlet  
temp. °C : 40  
Tolerance °C : ± 2.0

Overflow valve : 1417413025

Inlet press. bar : 1.5  
Tolerance bar : ± 0.1

Test nozzle holde  
assembly : 0681343009

Opening pressure  
bar : 173.5  
Tolerance bar : ± 1.5

Lube oil : 1409918004

Test lines : 1680750089

Outside diameter : 8.0  
x inside diameter : 3.0  
x length mm : 600

REMARKS

(A) INJECTION PUMP SETTING VALUES  
Set equal delivery quant.  
per values \_\_\_\_\_

BEGINNING OF DELIVERY

Test pressure bar : 31.0  
Tolerance bar : ± 1.0

Prestroke mm : 4.58  
Tolerance mm : ± 0.05

test only : ± 0.10

Rack travel in mm : 13.00  
Tolerance mm : ± 0.50

Firing order : 1- 5- 3- 6- 2-  
: 4

Phasing : 0-60-120-180-240  
: -300

Tolerance : ± 0.30  
Check  
tolerance °NW : ± 0.50

BEGINNING OF DELIVERY DIFFERENCE

Time to cyl. no. : 1

BASIC SETTING

Rated speed rpm : 1250

Rack travel in mm	:	14.65
Tolerance mm	:	+ 0.05
<hr/>		
Del. quantity		
cm <sup>3</sup> /1000 strokes	:	158.0
<hr/>		
Tolerance		
cm <sup>3</sup> /1000 strokes	:	+ 1.0
<hr/>		
Check tolerance		
cm <sup>3</sup> /1000S.	:	+ 3.5
<hr/>		
Spreed		
Tolerance		
cm <sup>3</sup> /1000 strokes	:	4.0
<hr/>		
Check tolerance		
cm <sup>3</sup> /1000S.	:	7.5
<hr/>		
2nd speed rpm	:	275
<hr/>		
Rack travel in mm	:	-9.50
Tolerance mm	:	+ 0.20
Del. quantity		
cm <sup>3</sup> /1000 strokes	:	19.5
Tolerance		
cm <sup>3</sup> /1000 strokes	:	+ 2.5
Check tolerance		
cm <sup>3</sup> /1000S.	:	+ 5.0
Spreed		
Tolerance		
cm <sup>3</sup> /1000 strokes	:	4.5
Check tolerance		
cm <sup>3</sup> /1000S.	:	7.5

(B) SETTING OF INJECTION PUMP  
WITH GOVERNOR

GUIDE SLEEVE POSITION

control lever		
position degree	:	- 1
Rated speed rpm	:	1385
<hr/>		
Rack travel in mm	:	13.60
Tolerance mm	:	+ 1.30

FULL LOAD DELIVERY AT FULL LOAD STOP

Rated speed rpm	:	1250
Aneroid pressure	:	1000
Del. quantity		
cm <sup>3</sup> /1000 strokes	:	158.0

Tolerance		
cm <sup>3</sup> /1000 strokes	:	+ 1.0
Check tolerance		
cm <sup>3</sup> /1000S.	:	+ 3.5
Spreed		
Tolerance		
cm <sup>3</sup> /1000 strokes	:	4.0
Check tolerance		
cm <sup>3</sup> /1000S.	:	7.5

RATED SPEED

control lever		
position degree	:	114.0
tolerance degree	:	+ 4.0
<hr/>		
rack travel mm	:	-1.00
Rated speed rpm	:	1320
Tolerance 1/min	:	+ 5
<hr/>		
rack travel mm	:	-10.65
Rated speed rpm	:	1490
Tolerance 1/min	:	+ 15
<hr/>		
rack travel mm	:	-14.15
Tolerance mm	:	+ 0.55
Rated speed rpm	:	1600

LOW IDLE

control lever		
position degree	:	62.0
tolerance degree	:	+ 4.0

Testing:

Rated speed rpm	:	200
CRT mm max.	:	< -8.90

CONTINUOUS-ACTION CONTROL

Rated speed rpm	:	415
-----------------	---	-----

TORQUE CONTROL

Rated speed rpm	:	1250
<hr/>		
Rated speed rpm	:	750
rack travel mm	:	-0.80
Tolerance mm	:	+ 0.10
<hr/>		
Rated speed rpm	:	750
rack travel mm	:	-5.60

Tolerance mm : +- 0.10  
Rated speed rpm : 750  
rack travel mm : -8.00  
Tolerance mm : +- 0.10

---

ANEROID/ALTITUDE  
COMPENSATOR TEST

SETTING

Rated speed rpm : 1250  
Pressure hPa : 1000

MEASUREMENT

Pressure hPa : -  
Rated speed rpm : 1250  
rack travel mm : -3.40  
Tolerance mm : +- 0.20

Rated speed rpm : 1250

Pressure hPa : 220  
rack travel mm : -2.60  
Tolerance mm : +- 0.20

Pressure hPa : 360  
rack travel mm : -1.75  
Tolerance mm : +- 0.05

---

START CUT-OUT

Rated speed rpm : > 150  
Check  
speed 1/min : > 130  
Rated speed rpm : < 200  
Check  
speed 1/min : < 220

---

FUEL DELIVERY CHARACTERISTICS

Aneroid pressure  
hPa : 1000  
Rated speed rpm : 750  
Del. quantity  
cm<sup>3</sup>/1000 strokes : 127.0  
Tolerance  
cm<sup>3</sup>/1000 strokes : +- 2.0  
Check tolerance  
cm<sup>3</sup>/1000S. : +- 5.0

Aneroid pressure  
hPa : -  
Rated speed rpm : 750

Del. quantity  
cm<sup>3</sup>/1000 strokes : 62.0  
Tolerance  
cm<sup>3</sup>/1000 strokes : +- 5.0  
Check tolerance  
cm<sup>3</sup>/1000S. : +- 8.0  
Speed  
Tolerance  
cm<sup>3</sup>/1000 strokes : 8.0

Aneroid pressure  
hPa : -  
Rated speed rpm : 750  
Del. quantity  
cm<sup>3</sup>/1000 strokes : 39.0  
Tolerance  
cm<sup>3</sup>/1000 strokes : +- 5.0  
Check tolerance  
cm<sup>3</sup>/1000S. : +- 8.0  
Speed  
Tolerance  
cm<sup>3</sup>/1000 strokes : 8.0

Aneroid pressure  
hPa : -  
Rated speed rpm : 500  
Del. quantity  
cm<sup>3</sup>/1000 strokes : 68.0  
Tolerance  
cm<sup>3</sup>/1000 strokes : +- 1.0  
Check tolerance  
cm<sup>3</sup>/1000S. : +- 3.5

---

BREAKAWAY

Rack travel in mm : -1.00  
Rated speed rpm : 1320  
Tolerance 1/min : +- 5

---

STARTING FUEL DELIVERY

Rated speed rpm : 100  
Del. quantity  
cm<sup>3</sup>/1000 strokes : 100.0  
Tolerance  
cm<sup>3</sup>/1000 strokes : +- 15.0  
Check tolerance  
cm<sup>3</sup>/1000S. : +- 19.0

---

LOW IDLE

Rated speed rpm : 275  
rack travel mm : -9.50

Tolerance mm : ± 0.20  
Del. quantity  
cm3/1000 strokes : 19.5  
Tolerance  
cm3/1000 strokes : ± 2.5  
Check tolerance  
cm3/1000s. : ± 5.0  
Spreed  
Tolerance  
cm3/1000 strokes : 4.5  
Check tolerance  
cm3/1000s. : 7.5



BOSCH INJ. PUMP TEST SPECIFICATIONS

Note remarks

Refer to Service Info for test and adjustment instructions.  
See microcard(s) W400/...

Edition : 20.12.94  
Test oil : ISO 4113  
  
Combination No. : 0402746949  
  
Injection pump  
Pump designation : PES6P120A720RS7224  
: -2  
EP type number : 0412726893  
  
Governor  
Governor design. : RQV275...1100PA975  
: -3K  
Governor no. : 0421815350

Cust. part No. :

Customer-spec. information  
Customer : IVECO-FRANCE  
Motor : 8460.41.406

TEST BENCH REQUIREMENTS

Test oil inlet  
temp. °C : 40  
Tolerance °C : ± 2.0  
  
Overflow valve : 1417413025  
  
Inlet press. bar : 1.5  
Tolerance bar : ± 0.1  
  
Overflow quantity  
min. l/h : 140  
Tolerance l/h : ± 20.0  
  
Test nozzle holder  
assembly : 1688901105  
  
Opening pressure  
bar : 208.5  
Tolerance bar : ± 1.5

Test lines : 1680750089  
Outside diameter : 8.0  
x inside diameter : 3.0  
x length mm : 600

REMARKS

(A) INJECTION PUMP SETTING VALUES  
Set equal delivery quant.  
per values \_\_\_\_\_

BEGINNING OF DELIVERY

Test pressure bar : 31.0  
Tolerance bar : ± 1.0  
  
Prestroke mm : 5.15  
Tolerance mm : ± 0.05  
test only : ± 0.10  
  
Rack travel in mm : 10.50  
Tolerance mm : ± 1.50  
  
Firing order : 1- 5- 3- 6- 2-  
: 4  
  
Phasing : 0-60-120-180-240  
: -300  
Tolerance : ± 0.30  
Check  
tolerance °NW : ± 0.75

BEGINNING OF DELIVERY DIFFERENCE

Time to cyl. no. : 1

BASIC SETTING

Rated speed rpm : 1100  
  
Rack travel in mm : 12.75  
Tolerance mm : ± 0.05



Del. quantity cm <sup>3</sup> /1000 strokes	: 218.0
<hr/>	
Tolerance cm <sup>3</sup> /1000 strokes	: ± 1.0
<hr/>	
Check tolerance cm <sup>3</sup> /1000S.	: ± 4.0
<hr/>	
Spread Tolerance cm <sup>3</sup> /1000 strokes	: 5.0
<hr/>	
Check tolerance cm <sup>3</sup> /1000S.	: 9.0
<hr/>	
2nd speed rpm	: 275
Rack travel in mm	: 5.50
Tolerance mm	: ± 0.20
Del. quantity cm <sup>3</sup> /1000 strokes	: 26.0
Tolerance cm <sup>3</sup> /1000 strokes	: ± 3.0
Check tolerance cm <sup>3</sup> /1000S.	: ± 6.0
Spread Tolerance cm <sup>3</sup> /1000 strokes	: 8.0
Check tolerance cm <sup>3</sup> /1000S.	: 12.0

(B) SETTING OF INJECTION PUMP  
WITH GOVERNOR

GUIDE SLEEVE TRAVEL

Rated speed rpm	: 275
guide sleeve travel mm	: 1.90
Tolerance mm	: ± 0.10
<hr/>	
Rated speed rpm	: 1145
guide sleeve travel mm	: 10.40
Tolerance mm	: ± 0.10
<hr/>	
Rated speed rpm	: 750
guide sleeve travel mm	: 6.10
Tolerance mm	: ± 0.25
<hr/>	
Rated speed rpm	: 430
guide sleeve travel mm	: 3.60
Tolerance mm	: ± 0.25
<hr/>	
Rated speed rpm	: 1360

guide sleeve travel mm	: 13.50
Tolerance mm	: ± 0.50

GUIDE SLEEVE POSITION

control lever position degree	: - 1
Rated speed rpm	: 1140
<hr/>	
Rack travel in mm	: 16.50
Tolerance mm	: ± 1.30

FULL LOAD DELIVERY AT FULL LOAD STOP

Rated speed rpm	: 1100
Aneroid pressure hPa	: 1200
Del. quantity cm <sup>3</sup> /1000 strokes	: 218.0
Tolerance cm <sup>3</sup> /1000 strokes	: ± 1.0
Check tolerance cm <sup>3</sup> /1000S.	: ± 4.0
Spread Tolerance cm <sup>3</sup> /1000 strokes	: 5.0
Check tolerance cm <sup>3</sup> /1000S.	: 9.0

RATED SPEED

control lever position degree	: 119.0
tolerance degree	: ± 4.0
<hr/>	
rack travel mm	: 11.70
Rated speed rpm	: 1145
Tolerance 1/min	: ± 5
<hr/>	
rack travel mm	: 4.00
Rated speed rpm	: 1235
Tolerance 1/min	: ± 15
<hr/>	
rack travel mm	: 0.50
Tolerance mm	: ± 0.50
Rated speed rpm	: 1350

LOW IDLE

control lever position degree	: 75.0
tolerance degree	: ± 4.0

Testing:

Rated speed rpm : 275  
rack travel mm : 5.50  
Tolerance mm : ± 0.10  
  
Rated speed rpm : 100  
  
CRT mm min. : > 7.00

---

CONTINUOUS-ACTION CONTROL

Rated speed rpm : 335

---

TORQUE CONTROL

Rated speed rpm : 1100  
rack travel mm : 12.75  
Tolerance mm : ± 0.05

Rated speed rpm : 900  
rack travel mm : 12.75  
Tolerance mm : ± 0.10

Rated speed rpm : 700  
rack travel mm : 11.80  
Tolerance mm : ± 0.10

Rated speed rpm : 500  
rack travel mm : 12.50  
Tolerance mm : ± 0.10

Rated speed rpm : 350  
rack travel mm : 11.40  
Tolerance mm : ± 0.20

Rated speed rpm : 500  
rack travel mm : 7.70  
Tolerance mm : ± 0.20

---

ANEROID/ALTITUDE  
COMPENSATOR TEST

SETTING

Rated speed rpm : 900  
Pressure hPa : 1200  
rack travel mm : 12.75  
Tolerance mm : ± 0.05

MEASUREMENT

Pressure hPa : -  
Rated speed rpm : 900  
rack travel mm : 7.70

Tolerance mm : ± 0.20

Rated speed rpm : 900

Pressure hPa : 410  
rack travel mm : 8.80  
Tolerance mm : ± 0.20

Pressure hPa : 750  
rack travel mm : 11.35  
Tolerance mm : ± 0.05

---

START CUT-OUT

Rated speed rpm : > 170

Check

speed 1/min : > 150

Rated speed rpm : < 220

Check

speed 1/min : < 240

---

FUEL DELIVERY CHARACTERISTICS

Aneroid pressure  
hPa : 1200  
Rated speed rpm : 900  
Del. quantity  
cm<sup>3</sup>/1000 strokes : 228.0  
Tolerance  
cm<sup>3</sup>/1000 strokes : ± 3.0  
Check tolerance  
cm<sup>3</sup>/1000S. : ± 6.0

Aneroid pressure  
hPa : 1200  
Rated speed rpm : 500  
Del. quantity  
cm<sup>3</sup>/1000 strokes : 243.0  
Tolerance  
cm<sup>3</sup>/1000 strokes : ± 3.0  
Check tolerance  
cm<sup>3</sup>/1000S. : ± 6.0

Aneroid pressure  
hPa : -  
Rated speed rpm : 500  
Del. quantity  
cm<sup>3</sup>/1000 strokes : 120.0  
Tolerance  
cm<sup>3</sup>/1000 strokes : ± 1.0  
Check tolerance  
cm<sup>3</sup>/1000S. : ± 4.0

---

BREAKAWAY

Rack travel in mm : 11.70

Rated speed rpm : 1145  
Tolerance 1/min :  $\pm$  5

---

STARTING FUEL DELIVERY

Rated speed rpm : 100  
Del. quantity  
cm<sup>3</sup>/1000 strokes : 140.0  
Tolerance  
cm<sup>3</sup>/1000 strokes :  $\pm$  15.0  
Check tolerance  
cm<sup>3</sup>/1000S. :  $\pm$  19.0

---

LOW IDLE

Rated speed rpm : 275  
rack travel mm : 5.50  
Tolerance mm :  $\pm$  0.20  
Del. quantity  
cm<sup>3</sup>/1000 strokes : 26.0  
Tolerance  
cm<sup>3</sup>/1000 strokes :  $\pm$  3.0  
Check tolerance  
cm<sup>3</sup>/1000S. :  $\pm$  6.0  
Spreed  
Tolerance  
cm<sup>3</sup>/1000 strokes : 8.0  
Check tolerance  
cm<sup>3</sup>/1000S. : 12.0

BOSCH INJ. PUMP TEST SPECIFICATIONS

Note remarks

Refer to Service Info for test and adjustment instructions.  
See microcard(s) W400/...

Edition : 15.12.94  
Test oil : ISO 4113  
  
Combination No. : 0402846054  
  
Injection pump  
Pump designation : PE6P120A32ORS8017  
EP type number : 0412826018  
  
Governor  
Governor design. : RQV300...1100PA1017  
: -1  
Governor no. : 0421814023  
  
Cust. part No. : 865811-P02

Customer-spec. information  
Customer : PENTA  
Motor : TWD 1030 ME  
Power KW : 212.0

TEST BENCH REQUIREMENTS

Test oil inlet  
temp. °C : 40  
Tolerance °C : ± 2.0  
  
Overflow valve : 2417413078  
  
Inlet press. bar : 2.5  
Tolerance bar : ± 0.1  
  
Test nozzle holde  
assembly : 1688901101  
  
Opening pressure  
bar : 208.5  
Tolerance bar : ± 1.5  
  
Test lines : 1680750008  
  
Outside diameter : 6.0

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x inside diameter : 2.0  
x length mm : 600

REMARKS

(A) INJECTION PUMP SETTING VALUES  
Set equal delivery quant.  
per values \_\_\_\_\_

BEGINNING OF DELIVERY

Test pressure bar : 31.0  
Tolerance bar : ± 1.0  
  
Prestroke mm : 4.15  
Tolerance mm : ± 0.05  
  
test only : ± 0.10  
  
Rack travel in mm : 10.50  
Tolerance mm : ± 1.50  
  
Firing order : 1- 5- 3- 6- 2-  
: 4  
  
Phasing : 0-60-120-180-240  
: -300  
Tolerance : ± 0.30  
Check  
tolerance °NW : ± 0.75

BEGINNING OF DELIVERY DIFFERENCE

Time to cyl. no. : 1

BASIC SETTING

Rated speed rpm : 750  
  
Rack travel in mm : 11.05  
Tolerance mm : ± 0.05  
  
Del. quantity  
cm<sup>3</sup>/1000 strokes : 205.0

Tolerance  
cm<sup>3</sup>/1000 strokes : + 1.0

---

Check tolerance  
cm<sup>3</sup>/1000S. : + 4.0

---

Spread  
Tolerance  
cm<sup>3</sup>/1000 strokes : 6.0

---

Check tolerance  
cm<sup>3</sup>/1000S. : 10.0

(B) SETTING OF INJECTION PUMP  
WITH GOVERNOR

---

GUIDE SLEEVE TRAVEL

Rated speed rpm : 300  
guide sleeve  
travel mm : 1.19  
Tolerance mm : + 0.25

Rated speed rpm : 1137  
guide sleeve  
travel mm : 8.19  
Tolerance mm : + 0.25

Rated speed rpm : 816  
guide sleeve  
travel mm : 5.27  
Tolerance mm : + 0.25

Rated speed rpm : 385  
guide sleeve  
travel mm : 1.98  
Tolerance mm : + 0.25

Rated speed rpm : 435  
guide sleeve  
travel mm : 2.45  
Tolerance mm : + 0.25

Rated speed rpm : 530  
guide sleeve  
travel mm : 3.11  
Tolerance mm : + 0.25

Rated speed rpm : 1400  
guide sleeve  
travel mm : 11.50  
Tolerance mm : + 0.50

---

GUIDE SLEEVE POSITION

control lever  
position degree : - 1  
Rated speed rpm : 1250

Rack travel in mm : 10.00  
Tolerance mm : + 2.00

---

FULL LOAD DELIVERY AT FULL LOAD STOP

Rated speed rpm : 750  
Aneroid pressure  
hPa : 1200  
Del. quantity  
cm<sup>3</sup>/1000 strokes : 205.0  
Tolerance  
cm<sup>3</sup>/1000 strokes : + 1.0  
Check tolerance  
cm<sup>3</sup>/1000S. : + 4.0  
Spread  
Tolerance  
cm<sup>3</sup>/1000 strokes : 6.0  
Check tolerance  
cm<sup>3</sup>/1000S. : 10.0

---

RATED SPEED

control lever  
position degree : 58.0  
tolerance degree : + 4.0

control lever  
position degree : 114.0  
tolerance degree : + 4.0

rack travel mm : 10.05  
Rated speed rpm : 1125  
Tolerance 1/min : + 5

rack travel mm : 4.00  
Rated speed rpm : 1210  
Tolerance 1/min : + 15

rack travel mm : 0.50  
Tolerance mm : + 0.50  
Rated speed rpm : 1320

---

LOW IDLE

control lever  
position degree : 80.0  
tolerance degree : + 4.0

control lever  
position degree : 15.0

tolerance degree : +- 4.0

Testing:

Rated speed rpm : 300  
rack travel mm : 4.30  
Tolerance mm : +- 0.30

Rated speed rpm : 100

CRT mm min. : > 6.00

---

CONTINUOUS-ACTION CONTROL

Rated speed rpm : 330

---

ANEROID/ALTITUDE  
COMPENSATOR TEST

SETTING

Rated speed rpm : 500  
Pressure hPa : 1200  
rack travel mm : 11.05  
Tolerance mm : +- 0.05

MEASUREMENT

Pressure hPa : -  
Rated speed rpm : 500  
rack travel mm : 7.80  
Tolerance mm : +- 0.10

Rated speed rpm : 500

Pressure hPa : 780  
rack travel mm : 2.90  
Tolerance mm : +- 0.10

Pressure hPa : 310  
rack travel mm : 0.25  
Tolerance mm : +- 0.05

---

FUEL DELIVERY CHARACTERISTICS

Aneroid pressure  
hPa : -  
Rated speed rpm : 700  
Del. quantity  
cm<sup>3</sup>/1000 strokes : 132.0  
Tolerance  
cm<sup>3</sup>/1000 strokes : +- 1.0  
Check tolerance  
cm<sup>3</sup>/1000S. : +- 4.0

---

BREAKAWAY

Rack travel in mm : 10.05  
Rated speed rpm : 1125  
Tolerance 1/min : +- 5

BOSCH INJ. PUMP TEST SPECIFICATIONS

Note remarks

Refer to Service Info for test and adjustment instructions.  
See microcard(s) W400/...

Edition : 16.12.94  
Test oil : ISO 4113  
Combination No. : 0402946011  
Injection pump  
Pump designation : PES6P120A320RS8028  
EP type number : 0412926021  
Governor  
Governor design. : RQV275...1250PA1125K  
Governor no. : 0421815981

Cust. part No. : CCEP 5140A 66-205

Customer-spec. information  
Customer : RVI  
Motor : MIDR 06.02.26L51  
Power KW : 132.0

TEST BENCH REQUIREMENTS

Test oil inlet  
temp. °C : 40  
Tolerance °C : ± 2.0  
Overflow valve : 2417413078  
Inlet press. bar : 2.5  
Test nozzle holde  
assembly : 1688901101  
Opening pressure  
bar : 208.5  
Tolerance bar : ± 1.5  
Lube oil : 1409918004  
Test lines : 1680750008  
Outside diameter : 6.0

x inside diameter : 2.0  
x length mm : 600

REMARKS

(A) INJECTION PUMP SETTING VALUES  
Set equal delivery quant.  
per values \_\_\_\_\_

BEGINNING OF DELIVERY

Test pressure bar : 31.0  
Tolerance bar : ± 1.0  
Prestroke mm : 4.95  
Tolerance mm : ± 0.05  
test only : ± 0.10  
Rack travel in mm : 11.00  
Tolerance mm : ± 0.50  
Firing order : 1- 5- 3- 6- 2-  
: 4  
Phasing : 0-60-120-180-240  
: -300  
Tolerance : ± 0.30  
Check  
tolerance °NW : ± 0.50

BEGINNING OF DELIVERY DIFFERENCE

betw. rack trav.  
mm : 10.00  
and maximum rack  
travel : 21.00  
Difference ° CS : 2.25  
Tolerance : ± 0.75

Time to cyl. no. : 1

BASIC SETTING

Rated speed rpm : 1250

---

Rack travel in mm : 12.60  
Tolerance mm :  $\pm$  0.05

---

Del. quantity  
cm<sup>3</sup>/1000 strokes : 169.0

---

Tolerance  
cm<sup>3</sup>/1000 strokes :  $\pm$  1.0

---

Check tolerance  
cm<sup>3</sup>/1000S. :  $\pm$  4.0

---

Spread  
Tolerance  
cm<sup>3</sup>/1000 strokes : 5.0

---

Check tolerance  
cm<sup>3</sup>/1000S. : 9.0

2nd speed rpm : 325

Rack travel in mm : -6.60  
Tolerance mm :  $\pm$  0.20

Del. quantity  
cm<sup>3</sup>/1000 strokes : 40.0  
Tolerance  
cm<sup>3</sup>/1000 strokes :  $\pm$  2.0  
Check tolerance  
cm<sup>3</sup>/1000S. :  $\pm$  6.0

Spread  
Tolerance  
cm<sup>3</sup>/1000 strokes : 8.0  
Check tolerance  
cm<sup>3</sup>/1000S. : 12.0

(B) SETTING OF INJECTION PUMP  
WITH GOVERNOR

GUIDE SLEEVE TRAVEL

Rated speed rpm : 275  
guide sleeve  
travel mm : 1.00  
Tolerance mm :  $\pm$  0.15

Rated speed rpm : 1355  
guide sleeve  
travel mm : 10.10  
Tolerance mm :  $\pm$  0.10

Rated speed rpm : 929  
guide sleeve  
travel mm : 6.80  
Tolerance mm :  $\pm$  0.20

Rated speed rpm : 390  
guide sleeve  
travel mm : 2.39  
Tolerance mm :  $\pm$  0.20

Rated speed rpm : 440  
guide sleeve  
travel mm : 3.01  
Tolerance mm :  $\pm$  0.20

Rated speed rpm : 550  
guide sleeve  
travel mm : 3.92  
Tolerance mm :  $\pm$  0.20

Rated speed rpm : 1650  
guide sleeve  
travel mm : 13.50  
Tolerance mm :  $\pm$  0.50

GUIDE SLEEVE POSITION

control lever  
position degree : - 1  
Rated speed rpm : 1430

Rack travel in mm : 10.90  
Tolerance mm :  $\pm$  2.00

FULL LOAD DELIVERY AT FULL LOAD STOP

Rated speed rpm : 1250  
Aneroid pressure  
hPa : 1600  
Del. quantity  
cm<sup>3</sup>/1000 strokes : 169.0  
Tolerance  
cm<sup>3</sup>/1000 strokes :  $\pm$  1.0  
Check tolerance  
cm<sup>3</sup>/1000S. :  $\pm$  4.0  
Spread  
Tolerance  
cm<sup>3</sup>/1000 strokes : 5.0  
Check tolerance  
cm<sup>3</sup>/1000S. : 9.0

RATED SPEED

control lever  
position degree : 296.0  
tolerance degree :  $\pm$  4.0

rack travel mm : -1.00  
Rated speed rpm : 1335  
Tolerance 1/min :  $\pm$  5



rack travel mm : -8.60  
Rated speed rpm : 1460  
Tolerance 1/min : ± 15

rack travel mm : -12.10  
Tolerance mm : ± 0.55  
Rated speed rpm : 1600

---

#### LOW IDLE

control lever  
position degree : 244.0  
tolerance degree : ± 4.0

#### Testing:

Rated speed rpm : 325  
rack travel mm : -6.60  
Tolerance mm : ± 0.10

Rated speed rpm : 200

CRT mm max. : < -5.20

---

#### CONTINUOUS-ACTION CONTROL

Rated speed rpm : 360

---

#### TORQUE CONTROL

Rated speed rpm : 1250

Rated speed rpm : 650  
rack travel mm : -1.10  
Tolerance mm : ± 0.10

Rated speed rpm : 350  
rack travel mm : -1.70  
Tolerance mm : ± 0.25

---

#### ANEROID/ALTITUDE COMPENSATOR TEST

#### SETTING

Rated speed rpm : 1250  
Pressure hPa : 1600  
Tolerance mm : ± 0.10

#### MEASUREMENT

Pressure hPa : -  
Rated speed rpm : 500

rack travel mm : -4.20  
Tolerance mm : ± 0.20

Rated speed rpm : 1250

Pressure hPa : 200  
rack travel mm : -3.60  
Tolerance mm : ± 0.20

Pressure hPa : 360  
rack travel mm : -2.50  
Tolerance mm : ± 0.05

---

#### START CUT-OUT

Rated speed rpm : > 150  
Check  
speed 1/min : > 130  
Rated speed rpm : < 215  
Check  
speed 1/min : < 235

---

#### FUEL DELIVERY CHARACTERISTICS

Aneroid pressure  
hPa : 1600  
Rated speed rpm : 650  
Del. quantity  
cm<sup>3</sup>/1000 strokes : 181.0  
Tolerance  
cm<sup>3</sup>/1000 strokes : ± 3.0  
Check tolerance  
cm<sup>3</sup>/1000S. : ± 6.0

Aneroid pressure  
hPa : -  
Rated speed rpm : 500  
Del. quantity  
cm<sup>3</sup>/1000 strokes : 118.0  
Tolerance  
cm<sup>3</sup>/1000 strokes : ± 1.0  
Check tolerance  
cm<sup>3</sup>/1000S. : ± 4.0

---

#### BREAKAWAY

Rack travel in mm : -1.00  
Rated speed rpm : 1335  
Tolerance 1/min : ± 5

---

#### STARTING FUEL DELIVERY

Del. quantity  
cm<sup>3</sup>/1000 strokes : 122.0

Tolerance  
cm<sup>3</sup>/1000 strokes : ± 10.0  
Check tolerance  
cm<sup>3</sup>/1000S. : ± 14.0

---

LOW IDLE

Rated speed rpm : 325  
rack travel mm : -6.60  
Tolerance mm : ± 0.20  
Del. quantity  
cm<sup>3</sup>/1000 strokes : 40.0  
Tolerance  
cm<sup>3</sup>/1000 strokes : ± 2.0  
Check tolerance  
cm<sup>3</sup>/1000S. : ± 6.0  
Spreed  
Tolerance  
cm<sup>3</sup>/1000 strokes : 8.0  
Check tolerance  
cm<sup>3</sup>/1000S. : 12.0

BOSCH INJ. PUMP TEST SPECIFICATIONS

Note remarks

Refer to Service Info for test and adjustment instructions.  
See microcard(s) W400/...

Edition : 16.12.94  
Test oil : ISO 4113  
Combination No. : 0402946013  
Injection pump  
Pump designation : PES6P120A32ORS8028  
EP type number : 0412926021  
Governor  
Governor design. : RQV275...1250PA1189K  
Governor no. : 0421815974  
Cust. part No. : CCEP 5146 66-220

---

Customer-spec. information  
Customer : RVI  
Motor : MIDR 06.02.26Y41  
Power KW : 184.0

---

TEST BENCH REQUIREMENTS

Test oil inlet  
temp. °C : 40  
Tolerance °C : ± 2.0  
Overflow valve : 2417413078  
Inlet press. bar : 2.5  
Test nozzle holder  
assembly : 1688901105  
Opening pressure  
bar : 208.5  
Tolerance bar : ± 1.5  
Lube oil : 1409918004  
Test lines : 1680750089  
Outside diameter : 8.0

601

x inside diameter : 3.0  
x length mm : 600

---

REMARKS

(A) INJECTION PUMP SETTING VALUES  
Set equal delivery quant.  
per values \_\_\_\_\_

---

BEGINNING OF DELIVERY

Test pressure bar : 31.0  
Tolerance bar : ± 1.0  
Prestroke mm : 4.95  
Tolerance mm : ± 0.05  
test only : ± 0.10  
Rack travel in mm : 11.00  
Tolerance mm : ± 0.50  
Firing order : 1- 5- 3- 6- 2-  
: 4  
Phasing : 0-60-120-180-240  
: -300  
Tolerance : ± 0.30  
Check  
tolerance °NW : ± 0.50

---

BEGINNING OF DELIVERY DIFFERENCE

Time to cyl. no. : 1

---

BASIC SETTING

Rated speed rpm : 1250  
Rack travel in mm : 14.40  
Tolerance mm : ± 0.05

Del. quantity cm <sup>3</sup> /1000 strokes	: 277.0
<hr/>	
Tolerance cm <sup>3</sup> /1000 strokes	: ± 1.0
<hr/>	
Check tolerance cm <sup>3</sup> /1000S.	: ± 4.0
<hr/>	
Speed Tolerance cm <sup>3</sup> /1000 strokes	: 5.0
<hr/>	
Check tolerance cm <sup>3</sup> /1000S.	: 9.0
<hr/>	
2nd speed rpm	: 275
<hr/>	
Rack travel in mm	: -7.90
Tolerance mm	: ± 0.20
Del. quantity cm <sup>3</sup> /1000 strokes	: 36.0
Tolerance cm <sup>3</sup> /1000 strokes	: ± 2.0
Check tolerance cm <sup>3</sup> /1000S.	: ± 6.0
<hr/>	
Speed Tolerance cm <sup>3</sup> /1000 strokes	: 8.0
Check tolerance cm <sup>3</sup> /1000S.	: 12.0

(B) SETTING OF INJECTION PUMP  
WITH GOVERNOR

GUIDE SLEEVE TRAVEL

Rated speed rpm	: 275
guide sleeve travel mm	: 1.10
Tolerance mm	: ± 0.25
<hr/>	
Rated speed rpm	: 1332
guide sleeve travel mm	: 10.07
Tolerance mm	: ± 0.25
<hr/>	
Rated speed rpm	: 912
guide sleeve travel mm	: 6.79
Tolerance mm	: ± 0.25
<hr/>	
Rated speed rpm	: 412
guide sleeve travel mm	: 2.53
Tolerance mm	: ± 0.25
<hr/>	
Rated speed rpm	: 462

guide sleeve travel mm	: 3.16
Tolerance mm	: ± 0.25
<hr/>	
Rated speed rpm	: 550
guide sleeve travel mm	: 3.97
Tolerance mm	: ± 0.25
<hr/>	
Rated speed rpm	: 1630
guide sleeve travel mm	: 13.50
Tolerance mm	: ± 0.50

GUIDE SLEEVE POSITION

control lever position degree	: - 1
Rated speed rpm	: 1420
<hr/>	
Rack travel in mm	: 13.50
Tolerance mm	: ± 1.50

FULL LOAD DELIVERY AT FULL LOAD STOP

Rated speed rpm	: 1250
Aneroid pressure hPa	: 1600
Del. quantity cm <sup>3</sup> /1000 strokes	: 277.0
Tolerance cm <sup>3</sup> /1000 strokes	: ± 1.0
Check tolerance cm <sup>3</sup> /1000S.	: ± 4.0
<hr/>	
Speed Tolerance cm <sup>3</sup> /1000 strokes	: 5.0
Check tolerance cm <sup>3</sup> /1000S.	: 9.0

RATED SPEED

control lever position degree	: 299.0
tolerance degree	: ± 4.0
<hr/>	
rack travel mm	: -1.00
Rated speed rpm	: 1320
Tolerance 1/min	: ± 5
<hr/>	
rack travel mm	: -10.40
Rated speed rpm	: 1475
Tolerance 1/min	: ± 15
<hr/>	
rack travel mm	: -13.90

Tolerance mm : +- 0.50  
Rated speed rpm : 1600

---

#### LOW IDLE

control lever  
position degree : 254.0  
tolerance degree : +- 4.0

#### Testing:

Rated speed rpm : 275  
rack travel mm : -7.90  
Tolerance mm : +- 0.10

Rated speed rpm : 200

CRT mm max. : < -7.10

---

#### CONTINUOUS-ACTION CONTROL

Rated speed rpm : 380

---

#### TORQUE CONTROL

Rated speed rpm : 1250

Rated speed rpm : 650  
rack travel mm : -1.10  
Tolerance mm : +- 0.10

Rated speed rpm : 350  
rack travel mm : -2.80  
Tolerance mm : +- 0.25

---

#### ANEROID/ALTITUDE COMPENSATOR TEST

#### SETTING

Rated speed rpm : 1250  
Pressure hPa : 1600  
Tolerance mm : +- 0.10

#### MEASUREMENT

Pressure hPa : -  
Rated speed rpm : 500  
rack travel mm : -4.50  
Tolerance mm : +- 0.20

Rated speed rpm : 1250

Pressure hPa : 410

rack travel mm : -3.80  
Tolerance mm : +- 0.20

Pressure hPa : 560  
rack travel mm : -2.70  
Tolerance mm : +- 0.05

---

#### START CUT-OUT

Rated speed rpm : > 130

Check  
speed 1/min : > 110

Rated speed rpm : < 225

Check  
speed 1/min : < 245

---

#### FUEL DELIVERY CHARACTERISTICS

Aneroid pressure  
hPa : 1600

Rated speed rpm : 650

Del. quantity  
cm<sup>3</sup>/1000 strokes : 287.0

Tolerance  
cm<sup>3</sup>/1000 strokes : +- 3.0

Check tolerance  
cm<sup>3</sup>/1000S. : +- 6.0

Aneroid pressure  
hPa : -

Rated speed rpm : 500

Del. quantity  
cm<sup>3</sup>/1000 strokes : 197.0

Tolerance  
cm<sup>3</sup>/1000 strokes : +- 1.0

Check tolerance  
cm<sup>3</sup>/1000S. : +- 4.0

---

#### BREAKAWAY

Rack travel in mm : -1.00  
Rated speed rpm : 1320  
Tolerance 1/min : +- 5

---

#### STARTING FUEL DELIVERY

Del. quantity  
cm<sup>3</sup>/1000 strokes : 105.0

Tolerance  
cm<sup>3</sup>/1000 strokes : +- 15.0

Check tolerance  
cm<sup>3</sup>/1000S. : +- 19.0

---

LOW IDLE

Rated speed rpm : 275  
rack travel mm : -7.90  
Tolerance mm :  $\pm$  0.20  
Del. quantity  
cm<sup>3</sup>/1000 strokes : 36.0  
Tolerance  
cm<sup>3</sup>/1000 strokes :  $\pm$  2.0  
Check tolerance  
cm<sup>3</sup>/1000S. :  $\pm$  6.0  
Spreed  
Tolerance  
cm<sup>3</sup>/1000 strokes : 8.0  
Check tolerance  
cm<sup>3</sup>/1000S. : 12.0



BOSCH INJ. PUMP TEST SPECIFICATIONS

Note remarks

Refer to Service Info for test and adjustment instructions.  
See microcard(s) W400/...

Edition : 21.12.94  
Test oil : ISO 4113  
Combination No. : 0403244043  
Injection pump  
Pump designation : PES4MW100/72ORS1519  
                  : -2  
EP type number : 0413204017  
Governor  
Governor design. : RQV300...1300MW132  
                  : -6  
Governor no. : 0420083309  
Cust. part No. : 0240744102

---

Customer-spec. information  
Customer : MB-NFZ  
Motor : OM364LA  
Power kW : 103.0

---

TEST BENCH REQUIREMENTS

Test oil inlet  
temp. °C : 40  
Tolerance °C : ± 2.0  
Overflow valve : 1419992198  
Inlet press. bar : 1.5  
Test nozzle holde  
assembly : 1688901101  
Opening pressure  
bar : 208.5  
Tolerance bar : ± 1.5  
Test lines : 1680750089  
Outside diameter : 8.0

G05

x inside diameter : 3.0  
x length mm : 600

---

REMARKS

(A) INJECTION PUMP SETTING VALUES  
Set equal delivery quant.  
per values \_\_\_\_\_

---

BEGINNING OF DELIVERY

Test pressure bar : 31.0  
Tolerance bar : ± 1.0

Prestroke mm : 4.55  
Tolerance mm : ± 0.05

test only : ± 0.10

Rack travel in mm : 21.00

Firing order : 1- 3- 4- 2

Phasing : 0-90-180-270  
Tolerance : ± 0.50  
Check  
tolerance °NW : ± 0.75

---

BASIC SETTING

Rated speed rpm : 1300

---

Rack travel in mm : 13.90  
Tolerance mm : ± 0.05

---

Del. quantity  
cm<sup>3</sup>/1000 strokes : 126.0

---

Tolerance  
cm<sup>3</sup>/1000 strokes : ± 1.0

---

Check tolerance  
cm<sup>3</sup>/1000S. : ± 4.0

---

Speed  
Tolerance  
cm<sup>3</sup>/1000 strokes : 4.0

---

Check tolerance  
 cm<sup>3</sup>/1000S. : 7.5  
  
 Del. quantity  
 cm<sup>3</sup>/1000 strokes : 12.0  
 Tolerance  
 cm<sup>3</sup>/1000 strokes : ± 2.0  
 Check tolerance  
 cm<sup>3</sup>/1000S. : ± 4.5  
 Spreed  
 Tolerance  
 cm<sup>3</sup>/1000 strokes : 3.5  
 Check tolerance  
 cm<sup>3</sup>/1000S. : 5.5

(B) SETTING OF INJECTION PUMP  
WITH GOVERNOR

GUIDE SLEEVE TRAVEL

Rated speed rpm : 300  
 guide sleeve  
 travel mm : 0.91  
 Tolerance mm : ± 0.25  
  
 Rated speed rpm : 1354  
 guide sleeve  
 travel mm : 7.77  
 Tolerance mm : ± 0.25  
  
 Rated speed rpm : 1140  
 guide sleeve  
 travel mm : 5.88  
 Tolerance mm : ± 0.25  
  
 Rated speed rpm : 629  
 guide sleeve  
 travel mm : 3.15  
 Tolerance mm : ± 0.25  
  
 Rated speed rpm : 679  
 guide sleeve  
 travel mm : 3.53  
 Tolerance mm : ± 0.25  
  
 Rated speed rpm : 800  
 guide sleeve  
 travel mm : 4.00  
 Tolerance mm : ± 0.25  
  
 Rated speed rpm : 1596  
 guide sleeve  
 travel mm : 12.00  
 Tolerance mm : ± 0.25  
  
 Rated speed rpm : 1690  
 guide sleeve  
 travel mm : 13.50

Tolerance mm : ± 0.50

GUIDE SLEEVE POSITION

control lever  
 position degree : - 1  
 Rated speed rpm : 1510  
  
 Rack travel in mm : 16.50  
 Tolerance mm : ± 1.30

FULL LOAD DELIVERY AT FULL LOAD STOP

Rated speed rpm : 1300  
 Aneroid pressure  
 hPa : 1200  
 Del. quantity  
 cm<sup>3</sup>/1000 strokes : 126.0  
 Tolerance  
 cm<sup>3</sup>/1000 strokes : ± 1.0  
 Check tolerance  
 cm<sup>3</sup>/1000S. : ± 4.0  
 Spreed  
 Tolerance  
 cm<sup>3</sup>/1000 strokes : 4.0  
 Check tolerance  
 cm<sup>3</sup>/1000S. : 7.5

RATED SPEED

control lever  
 position degree : 114.0  
 tolerance degree : ± 4.0  
  
 rack travel mm : 12.90  
 Rated speed rpm : 1345  
 Tolerance 1/min : ± 5  
  
 rack travel mm : 4.00  
 Rated speed rpm : 1465  
 Tolerance 1/min : ± 15  
  
 rack travel mm : 0.50  
 Tolerance mm : ± 0.50  
 Rated speed rpm : 1550

LOW IDLE

control lever  
 position degree : 72.0  
 tolerance degree : ± 4.0

Testing:



Rated speed rpm : 300  
rack travel mm : 3.90  
Tolerance mm : ± 0.10

Rated speed rpm : 200  
CRT mm min. : > 4.50

---

TORQUE CONTROL

Rated speed rpm : 1300  
rack travel mm : 13.90  
Tolerance mm : ± 0.05

Rated speed rpm : 750  
rack travel mm : 13.90  
Tolerance mm : ± 0.10

Rated speed rpm : 600  
rack travel mm : 13.90  
Tolerance mm : ± 0.10

---

ANEROID/ALTITUDE  
COMPENSATOR TEST

SETTING

Rated speed rpm : 500  
Pressure hPa : 1200  
rack travel mm : 13.90  
Tolerance mm : ± 0.05

MEASUREMENT

Pressure hPa : -  
Rated speed rpm : 500  
Tolerance mm : ± 0.10

Rated speed rpm : 500

Pressure hPa : 600  
rack travel mm : 2.00  
Tolerance mm : ± 0.10

Pressure hPa : 350  
rack travel mm : 0.50  
Tolerance mm : ± 0.10

---

START CUT-OUT

Rated speed rpm : > 100  
Check  
speed 1/min : > 80  
Rated speed rpm : < 200

Check  
speed 1/min : < 220

---

FUEL DELIVERY CHARACTERISTICS

Aneroid pressure  
hPa : 1200  
Rated speed rpm : 750  
Del. quantity  
cm<sup>3</sup>/1000 strokes : 124.0  
Tolerance  
cm<sup>3</sup>/1000 strokes : ± 2.0  
Check tolerance  
cm<sup>3</sup>/1000S. : ± 5.0  
Spreed  
Tolerance  
cm<sup>3</sup>/1000 strokes : 6.0  
Check tolerance  
cm<sup>3</sup>/1000S. : 9.0

Aneroid pressure  
hPa : 1200  
Rated speed rpm : 600  
Del. quantity  
cm<sup>3</sup>/1000 strokes : 126.0  
Tolerance  
cm<sup>3</sup>/1000 strokes : ± 2.0  
Check tolerance  
cm<sup>3</sup>/1000S. : ± 5.0

Aneroid pressure  
hPa : -  
Rated speed rpm : 500  
Del. quantity  
cm<sup>3</sup>/1000 strokes : 67.0  
Tolerance  
cm<sup>3</sup>/1000 strokes : ± 1.0  
Check tolerance  
cm<sup>3</sup>/1000S. : ± 3.0

---

BREAKAWAY

Rack travel in mm : 12.90  
Rated speed rpm : 1345  
Tolerance 1/min : ± 5

---

STARTING FUEL DELIVERY

Rated speed rpm : 100  
Del. quantity  
cm<sup>3</sup>/1000 strokes : 150.0  
Tolerance  
cm<sup>3</sup>/1000 strokes : ± 5.0  
Check tolerance  
cm<sup>3</sup>/1000S. : ± 8.0

---

LOW IDLE

Del. quantity  
cm<sup>3</sup>/1000 strokes : 12.0  
Tolerance  
cm<sup>3</sup>/1000 strokes : ± 2.0  
Check tolerance  
cm<sup>3</sup>/1000S. : ± 4.5  
Spreed  
Tolerance  
cm<sup>3</sup>/1000 strokes : 3.5  
Check tolerance  
cm<sup>3</sup>/1000S. : 5.5





Tolerance  
cm<sup>3</sup>/1000 strokes : 3.5

---

Check tolerance  
cm<sup>3</sup>/1000S. : 6.0

Del. quantity  
cm<sup>3</sup>/1000 strokes : 12.0

Tolerance  
cm<sup>3</sup>/1000 strokes : ± 2.0

Check tolerance  
cm<sup>3</sup>/1000S. : ± 4.5

Spreed  
Tolerance  
cm<sup>3</sup>/1000 strokes : 3.5

Check tolerance  
cm<sup>3</sup>/1000S. : 5.5

(B) SETTING OF INJECTION PUMP  
WITH GOVERNOR

GUIDE SLEEVE TRAVEL

Rated speed rpm : 300  
guide sleeve  
travel mm : 1.02  
Tolerance mm : ± 0.25

Rated speed rpm : 1353  
guide sleeve  
travel mm : 6.70  
Tolerance mm : ± 0.25

Rated speed rpm : 1090  
guide sleeve  
travel mm : 4.70  
Tolerance mm : ± 0.25

Rated speed rpm : 490  
guide sleeve  
travel mm : 2.25  
Tolerance mm : ± 0.25

Rated speed rpm : 540  
guide sleeve  
travel mm : 2.54  
Tolerance mm : ± 0.25

Rated speed rpm : 690  
guide sleeve  
travel mm : 2.97  
Tolerance mm : ± 0.25

Rated speed rpm : 1683  
guide sleeve  
travel mm : 12.00  
Tolerance mm : ± 0.25

Rated speed rpm : 1780  
guide sleeve  
travel mm : 13.50  
Tolerance mm : ± 0.50

GUIDE SLEEVE POSITION

Rated speed rpm : 1500  
Rack travel in mm : 10.00  
Tolerance mm : ± 2.00

FULL LOAD DELIVERY AT FULL LOAD STOP

Rated speed rpm : 1300  
Aneroid pressure  
hPa : 1000  
Del. quantity  
cm<sup>3</sup>/1000 strokes : 96.0  
Tolerance  
cm<sup>3</sup>/1000 strokes : ± 1.0  
Check tolerance  
cm<sup>3</sup>/1000S. : ± 3.0  
Spreed  
Tolerance  
cm<sup>3</sup>/1000 strokes : 3.5  
Check tolerance  
cm<sup>3</sup>/1000S. : 6.0

RATED SPEED

control lever  
position degree : 100.0  
tolerance degree : ± 4.0

rack travel mm : 10.20  
Rated speed rpm : 1345  
Tolerance 1/min : ± 5

rack travel mm : 4.00  
Rated speed rpm : 1460  
Tolerance 1/min : ± 15

rack travel mm : 0.50  
Tolerance mm : ± 0.50  
Rated speed rpm : 1550

LOW IDLE

control lever  
position degree : 55.0  
tolerance degree : ± 4.0

Testing:

Rated speed rpm : 300  
rack travel mm : 3.50  
Tolerance mm : ± 0.10

Rated speed rpm : 200  
CRT mm min. : > 4.20

---

#### TORQUE CONTROL

Rated speed rpm : 1300  
rack travel mm : 11.25  
Tolerance mm : ± 0.05

Rated speed rpm : 750  
rack travel mm : 11.25  
Tolerance mm : ± 0.10

Rated speed rpm : 600  
rack travel mm : 11.25  
Tolerance mm : ± 0.10

---

#### ANEROID/ALTITUDE COMPENSATOR TEST

#### SETTING

Rated speed rpm : 500  
Pressure hPa : 1000  
rack travel mm : 11.25  
Tolerance mm : ± 0.10

#### MEASUREMENT

Pressure hPa : -  
Rated speed rpm : 500  
Tolerance mm : ± 0.10

Rated speed rpm : 500

Pressure hPa : 350  
rack travel mm : 1.15  
Tolerance mm : ± 0.10

Pressure hPa : 250  
rack travel mm : 0.45  
Tolerance mm : ± 0.10

---

#### START CUT-OUT

Rated speed rpm : > 100  
Check  
speed 1/min : > 80  
Rated speed rpm : < 220

Check  
speed 1/min : < 240

---

#### FUEL DELIVERY CHARACTERISTICS

Aneroid pressure  
hPa : 1000  
Rated speed rpm : 750

Del. quantity  
cm<sup>3</sup>/1000 strokes : 87.0  
Tolerance

cm<sup>3</sup>/1000 strokes : ± 1.5  
Check tolerance  
cm<sup>3</sup>/1000S. : ± 4.0

Spread  
Tolerance  
cm<sup>3</sup>/1000 strokes : 5.5  
Check tolerance  
cm<sup>3</sup>/1000S. : 7.0

Aneroid pressure  
hPa : 1000  
Rated speed rpm : 600

Del. quantity  
cm<sup>3</sup>/1000 strokes : 88.0  
Tolerance

cm<sup>3</sup>/1000 strokes : ± 1.5  
Check tolerance  
cm<sup>3</sup>/1000S. : ± 4.0

Aneroid pressure  
hPa : -  
Rated speed rpm : 500

Del. quantity  
cm<sup>3</sup>/1000 strokes : 57.0  
Tolerance

cm<sup>3</sup>/1000 strokes : ± 1.0  
Check tolerance  
cm<sup>3</sup>/1000S. : ± 3.0

---

#### BREAKAWAY

Rack travel in mm : 10.20  
Rated speed rpm : 1345  
Tolerance 1/min : ± 5

---

#### STARTING FUEL DELIVERY

Rated speed rpm : 100  
Del. quantity  
cm<sup>3</sup>/1000 strokes : 160.0

Tolerance  
cm<sup>3</sup>/1000 strokes : ± 5.0  
Check tolerance  
cm<sup>3</sup>/1000S. : ± 8.0

---

LOW IDLE

Del. quantity  
cm<sup>3</sup>/1000 strokes : 12.0  
Tolerance  
cm<sup>3</sup>/1000 strokes : ± 2.0  
Check tolerance  
cm<sup>3</sup>/1000S. : ± 4.5  
Speed  
Tolerance  
cm<sup>3</sup>/1000 strokes : 3.5  
Check tolerance  
cm<sup>3</sup>/1000S. : 5.5

BOSCH INJ. PUMP TEST SPECIFICATIONS

Note remarks

Refer to Service Info for test and adjustment instructions.  
See microcard(s) W400/...

Edition : 21.12.94  
Test oil : ISO 4113  
Combination No. : 0403486106  
Injection pump  
Pump designation : PES6MW100/321RS1232  
EP type number : 0413406226  
Governor  
Governor design. : RSV300...1150MWOA343  
: -2  
Governor no. : 0420085210  
Cust. part No. : 3-7262

Customer-spec. information  
Customer : MAN  
Motor : D0826LE 523  
Power KW : 154.0

TEST BENCH REQUIREMENTS

Test oil inlet  
temp. °C : 40  
Tolerance °C : ± 2.0  
Overflow valve : 1417413047  
Inlet press. bar : 1.5  
Test nozzle holde  
assembly : 0681343009  
Opening pressure  
bar : 173.5  
Tolerance bar : ± 1.5  
Test lines : 1680750008  
Outside diameter : 6.0

x inside diameter : 2.0  
x length mm : 600

REMARKS

(A) INJECTION PUMP SETTING VALUES  
Set equal delivery quant.  
per values \_\_\_\_\_

BEGINNING OF DELIVERY

Test pressure bar : 31.0  
Tolerance bar : ± 1.0  
Prestroke mm : 3.55  
Tolerance mm : ± 0.05  
test only : ± 0.10  
Rack travel in mm : 10.50  
Tolerance mm : ± 1.50  
Firing order : 1- 5- 3- 6- 2-  
: 4  
Phasing : 0-60-120-180-240  
: -300  
Tolerance : ± 0.50  
Check  
tolerance °NW : ± 0.75

BEGINNING OF DELIVERY DIFFERENCE

Time to cyl. no. : 1  
S.o.d. blocking  
Barrel no. : 1

BASIC SETTING

Rated speed rpm : 1125  
Rack travel in mm : 13.15  
Tolerance mm : ± 0.05  
Del. quantity  
cm<sup>3</sup>/1000 strokes : 163.0

<hr/>	
Tolerance	
cm <sup>3</sup> /1000 strokes	: + 1.0
<hr/>	
Check tolerance	
cm <sup>3</sup> /1000S.	: + 4.0
<hr/>	
Spreed	
Tolerance	
cm <sup>3</sup> /1000 strokes	: 4.0
<hr/>	
Check tolerance	
cm <sup>3</sup> /1000S.	: 7.5
<hr/>	
Del. quantity	
cm <sup>3</sup> /1000 strokes	: 15.0
Tolerance	
cm <sup>3</sup> /1000 strokes	: + 2.0
Check tolerance	
cm <sup>3</sup> /1000S.	: + 4.5
Spreed	
Tolerance	
cm <sup>3</sup> /1000 strokes	: 3.5
Check tolerance	
cm <sup>3</sup> /1000S.	: 5.5

(B) SETTING OF INJECTION PUMP  
WITH GOVERNOR

---

GUIDE SLEEVE POSITION

control lever	
position degree	: - 3
Rated speed rpm	: 800
<hr/>	
Rack travel in mm	: 0.65
Tolerance mm	: + 0.35
<hr/>	
governor spring	
pre-tension	
click setting x	: 5.50

---

FULL LOAD DELIVERY AT FULL LOAD STOP

Rated speed rpm	: 1125
Aneroid pressure	
hPa	: 1200
Del. quantity	
cm <sup>3</sup> /1000 strokes	: 163.0
Tolerance	
cm <sup>3</sup> /1000 strokes	: + 1.0
Check tolerance	
cm <sup>3</sup> /1000S.	: + 4.0
Spreed	

Tolerance	
cm <sup>3</sup> /1000 strokes	: 4.0
Check tolerance	
cm <sup>3</sup> /1000S.	: 7.5

---

RATED SPEED

control lever	
position degree	: 104.0
tolerance degree	: + 4.0
<hr/>	
rack travel mm	: 12.15
Rated speed rpm	: 1180
Tolerance 1/min	: + 5
<hr/>	
rack travel mm	: 4.00
Rated speed rpm	: 1280
Tolerance 1/min	: + 15
<hr/>	
rack travel mm	: 1.00
Tolerance mm	: + 0.70
Rated speed rpm	: 1400

---

LOW IDLE

control lever	
position degree	: 77.0
tolerance degree	: + 4.0

Testing:

Rated speed rpm	: 300
rack travel mm	: 5.50
Tolerance mm	: + 0.10
<hr/>	
rack travel mm	: 2.00
Rated speed rpm	: 100
<hr/>	
CRT mm min.	: > 19.00

---

TORQUE CONTROL

Rated speed rpm	: 1125
rack travel mm	: 13.15
Tolerance mm	: + 0.05
<hr/>	
Rated speed rpm	: 925
rack travel mm	: 13.50
Tolerance mm	: + 0.10
<hr/>	
Rated speed rpm	: 600
rack travel mm	: 13.50
Tolerance mm	: + 0.10



---

ANEROID/ALTITUDE  
COMPENSATOR TEST

SETTING

Rated speed rpm : 500  
Pressure hPa : 1200  
rack travel mm : 13.50  
Tolerance mm : ± 0.10

MEASUREMENT

Pressure hPa : -  
Rated speed rpm : 500  
rack travel mm : 9.45  
Tolerance mm : ± 0.05

Rated speed rpm : 500

Pressure hPa : 750  
rack travel mm : 12.35  
Tolerance mm : ± 0.15

Pressure hPa : 150  
rack travel mm : 9.75  
Tolerance mm : ± 0.05

---

FUEL DELIVERY CHARACTERISTICS

Aneroid pressure  
hPa : 1200  
Rated speed rpm : 925  
Del. quantity  
cm<sup>3</sup>/1000 strokes : 165.0  
Tolerance  
cm<sup>3</sup>/1000 strokes : ± 2.0  
Check tolerance  
cm<sup>3</sup>/1000S. : ± 5.0  
Spreed  
Tolerance  
cm<sup>3</sup>/1000 strokes : 6.0  
Check tolerance  
cm<sup>3</sup>/1000S. : 9.0

Aneroid pressure  
hPa : 1200  
Rated speed rpm : 600  
Del. quantity  
cm<sup>3</sup>/1000 strokes : 163.0  
Tolerance  
cm<sup>3</sup>/1000 strokes : ± 2.0  
Check tolerance  
cm<sup>3</sup>/1000S. : ± 5.0

Aneroid pressure  
hPa : -  
Rated speed rpm : 500  
Del. quantity  
cm<sup>3</sup>/1000 strokes : 76.0  
Tolerance  
cm<sup>3</sup>/1000 strokes : ± 1.0  
Check tolerance  
cm<sup>3</sup>/1000S. : ± 3.0

---

BREAKAWAY

Rack travel in mm : 12.15  
Rated speed rpm : 1180  
Tolerance 1/min : ± 5

---

STARTING FUEL DELIVERY

Rated speed rpm : 100  
Del. quantity  
cm<sup>3</sup>/1000 strokes : 145.0  
Tolerance  
cm<sup>3</sup>/1000 strokes : ± 5.0  
Check tolerance  
cm<sup>3</sup>/1000S. : ± 8.0

---

LOW IDLE

Del. quantity  
cm<sup>3</sup>/1000 strokes : 15.0  
Tolerance  
cm<sup>3</sup>/1000 strokes : ± 2.0  
Check tolerance  
cm<sup>3</sup>/1000S. : ± 4.5  
Spreed  
Tolerance  
cm<sup>3</sup>/1000 strokes : 3.5  
Check tolerance  
cm<sup>3</sup>/1000S. : 5.5

BOSCH INJ. PUMP TEST SPECIFICATIONS

Note remarks

Refer to Service Info for test and adjustment instructions.  
See microcard(s) W400/...

Edition : 18.03.94  
Test oil : ISO 4113  
  
Combination No. : 0401846900  
  
Injection pump  
Pump designation : PE6P120A320RS3240  
EP type number : 0411826786  
  
Governor  
Governor design. : RQV250...1025PA921  
: -16  
Governor no. : 0421813799  
  
Cust. part No. : 478378-P02

Customer-spec. information  
Customer : VOLVO-TRUCK  
Motor : TD122FL  
Power KW : 298.0

TEST BENCH REQUIREMENTS

Test oil inlet  
temp. °C : 40  
Tolerance °C : ± 2.0  
  
Overflow valve : 2457413046  
  
Inlet press. bar : 1.5  
Tolerance bar : ± 0.1  
  
Test nozzle holde  
assembly : 1688901019  
  
Opening pressure  
bar : 208.5  
Tolerance bar : ± 1.5  
  
Test lines : 1680750075  
  
Outside diameter : 8.0

x inside diameter : 3.0  
x length mm : 1000

REMARKS

(A) INJECTION PUMP SETTING VALUES  
Set equal delivery quant.  
per values \_\_\_\_\_

BEGINNING OF DELIVERY

Test pressure bar : 31.0  
Tolerance bar : ± 1.0

Prestroke mm : 2.85  
Tolerance mm : ± 0.05

test only : ± 0.10

Rack travel in mm : 10.50  
Tolerance mm : ± 1.50

Firing order : 1- 5- 3- 6- 2-  
: 4

Phasing : 0-60-120-180-240  
: -300

Tolerance : ± 0.30

Check  
tolerance °NW : ± 0.75

BEGINNING OF DELIVERY DIFFERENCE

Time to cyl. no. : 1

BASIC SETTING

Rated speed rpm : 700

Rack travel in mm : 13.65  
Tolerance mm : ± 0.05

Del. quantity  
cm<sup>3</sup>/1000 strokes : 252.0

Tolerance  
cm<sup>3</sup>/1000 strokes : ± 1.0

Check tolerance  
cm<sup>3</sup>/1000S. : ± 4.0

Spread  
Tolerance  
cm<sup>3</sup>/1000 strokes : 5.0

Check tolerance  
cm<sup>3</sup>/1000S. : 9.0

(B) SETTING OF INJECTION PUMP  
WITH GOVERNOR

GUIDE SLEEVE POSITION

control lever  
position degree : - 1  
Rated speed rpm : 1100

Rack travel in mm : 16.50  
Tolerance mm : ± 1.30

FULL LOAD DELIVERY AT FULL LOAD STOP

Rated speed rpm : 700  
Aneroid pressure  
hPa : 1200  
Del. quantity  
cm<sup>3</sup>/1000 strokes : 252.0  
Tolerance  
cm<sup>3</sup>/1000 strokes : ± 1.0  
Check tolerance  
cm<sup>3</sup>/1000S. : ± 4.0  
Spread  
Tolerance  
cm<sup>3</sup>/1000 strokes : 5.0  
Check tolerance  
cm<sup>3</sup>/1000S. : 9.0

RATED SPEED

control lever  
position degree : 65.0  
tolerance degree : ± 4.0

control lever  
position degree : 120.0  
tolerance degree : ± 4.0

rack travel mm : 12.65  
Rated speed rpm : 1070  
Tolerance 1/min : ± 5

rack travel mm : 4.00  
Rated speed rpm : 1155  
Tolerance 1/min : ± 15

rack travel mm : 0.50  
Tolerance mm : ± 0.50  
Rated speed rpm : 1250

LOW IDLE

control lever  
position degree : 64.0  
tolerance degree : ± 4.0

control lever  
position degree : 9.0  
tolerance degree : ± 4.0

Testing:

Rated speed rpm : 250  
rack travel mm : 6.60  
Tolerance mm : ± 0.10

Rated speed rpm : 100

CRT mm min. : > 8.10

CONTINUOUS-ACTION CONTROL

Rated speed rpm : 315

ANEROID/ALTITUDE  
COMPENSATOR TEST

SETTING

Rated speed rpm : 500  
Pressure hPa : 1200  
rack travel mm : 13.65  
Tolerance mm : ± 0.05

MEASUREMENT

Pressure hPa : -

Rated speed rpm : 500  
rack travel mm : 9.70  
Tolerance mm :  $\pm$  0.10

Rated speed rpm : 500

Pressure hPa : 780  
rack travel mm : 3.30  
Tolerance mm :  $\pm$  0.10

Pressure hPa : 90  
rack travel mm : 0.25  
Tolerance mm :  $\pm$  0.05

---

#### FUEL DELIVERY CHARACTERISTICS

Aneroid pressure  
hPa : -  
Rated speed rpm : 700  
Del. quantity  
cm<sup>3</sup>/1000 strokes : 155.0  
Tolerance  
cm<sup>3</sup>/1000 strokes :  $\pm$  1.0  
Check tolerance  
cm<sup>3</sup>/1000S. :  $\pm$  4.0

---

#### BREAKAWAY

Rack travel in mm : 12.65  
Rated speed rpm : 1070  
Tolerance 1/min :  $\pm$  5

---

#### STARTING FUEL DELIVERY

Rated speed rpm : 100  
rack travel mm : 20.50  
Tolerance mm :  $\pm$  0.50  
Del. quantity  
cm<sup>3</sup>/1000 strokes : 290.0  
Tolerance  
cm<sup>3</sup>/1000 strokes :  $\pm$  20.0  
Check tolerance  
cm<sup>3</sup>/1000S. :  $\pm$  24.0

# BOSCH INJ. PUMP TEST SPECIFICATIONS

Note remarks

Refer to Service Info for test and adjustment instructions.  
See microcard(s) W400/...

Edition : 04.01.95  
Test oil : ISO 4113  
Combination No. : 0402046855  
Injection pump  
Pump designation : PE6P110A320RS3329  
EP type number : 0412016743  
Governor  
Governor design. : RQV325...1300PA1119  
Governor no. : 0421814083  
Cust. part No. : 1284418/3

---

Customer-spec. information  
Customer : DAF  
Motor : NS156M  
Power Kw : 156.0

---

## TEST BENCH REQUIREMENTS

Test oil inlet  
temp. °C : 40  
Tolerance °C : ± 2.0  
Overflow valve : 1417413025  
Inlet press. bar : 1.5  
Tolerance bar : ± 0.1  
Test nozzle holde  
assembly : 1688901101  
Opening pressure  
bar : 208.5  
Tolerance bar : ± 1.5  
Test lines : 1680750008  
Outside diameter : 6.0

x inside diameter : 2.0  
x length mm : 600

---

## REMARKS

(A) INJECTION PUMP SETTING VALUES  
Set equal delivery quant.  
per values \_\_\_\_\_

---

## BEGINNING OF DELIVERY

Test pressure bar : 31.0  
Tolerance bar : ± 1.0  
Prestroke mm : 4.85  
Tolerance mm : ± 0.05  
test only : ± 0.10  
Rack travel in mm : 20.50  
Tolerance mm : ± 0.50  
Firing order : 1- 5- 3- 6- 2-  
: 4  
Phasing : 0-60-120-180-240  
: -300  
Tolerance : ± 0.30  
Check  
tolerance °NW : ± 0.75

---

## BEGINNING OF DELIVERY DIFFERENCE

Time to cyl. no. : 1

---

## BASIC SETTING

Rated speed rpm : 1000  
Rack travel in mm : 11.85  
Tolerance mm : ± 0.05  
Del. quantity  
cm<sup>3</sup>/1000 strokes : 144.0

---

Tolerance  
cm<sup>3</sup>/1000 strokes : ± 1.0

---

Check tolerance  
cm<sup>3</sup>/1000S. : ± 4.0

---

Spreed  
Tolerance  
cm<sup>3</sup>/1000 strokes : 4.0

---

Check tolerance  
cm<sup>3</sup>/1000S. : 7.5

2nd speed rpm : 325

Rack travel in mm : 5.20  
Tolerance mm : ± 0.10

Del. quantity  
cm<sup>3</sup>/1000 strokes : 26.0  
Tolerance  
cm<sup>3</sup>/1000 strokes : ± 2.5  
Check tolerance  
cm<sup>3</sup>/1000S. : ± 5.0

Spreed  
Tolerance  
cm<sup>3</sup>/1000 strokes : 4.5  
Check tolerance  
cm<sup>3</sup>/1000S. : 7.5

(B) SETTING OF INJECTION PUMP  
WITH GOVERNOR

GUIDE SLEEVE TRAVEL

Rated speed rpm : 325  
guide sleeve  
travel mm : 1.33  
Tolerance mm : ± 0.15

Rated speed rpm : 1353  
guide sleeve  
travel mm : 8.29  
Tolerance mm : ± 0.20

Rated speed rpm : 900  
guide sleeve  
travel mm : 4.92  
Tolerance mm : ± 0.25

Rated speed rpm : 405  
guide sleeve  
travel mm : 2.07  
Tolerance mm : ± 0.25

Rated speed rpm : 455  
guide sleeve  
travel mm : 2.52  
Tolerance mm : ± 0.25

Rated speed rpm : 530  
guide sleeve  
travel mm : 2.93  
Tolerance mm : ± 0.25

Rated speed rpm : 1640  
guide sleeve  
travel mm : 11.50  
Tolerance mm : ± 0.50

GUIDE SLEEVE POSITION

control lever  
position degree : - 1  
Rated speed rpm : 1450

Rack travel in mm : 10.80  
Tolerance mm : ± 1.30

FULL LOAD DELIVERY AT FULL LOAD STOP

Rated speed rpm : 1000  
Aneroid pressure  
hPa : 1000  
Del. quantity  
cm<sup>3</sup>/1000 strokes : 144.0  
Tolerance  
cm<sup>3</sup>/1000 strokes : ± 1.0  
Check tolerance  
cm<sup>3</sup>/1000S. : ± 4.0

Spreed  
Tolerance  
cm<sup>3</sup>/1000 strokes : 4.0  
Check tolerance  
cm<sup>3</sup>/1000S. : 7.5

RATED SPEED

control lever  
position degree : 122.0  
tolerance degree : ± 4.0

rack travel mm : 10.85  
Rated speed rpm : 1342  
Tolerance 1/min : ± 5

rack travel mm : 4.00  
Rated speed rpm : 1460  
Tolerance 1/min : ± 15

rack travel mm : 0.50  
Tolerance mm : ± 0.50  
Rated speed rpm : 1600

---

LOW IDLE

control lever  
position degree : 83.0  
tolerance degree : +- 4.0

Testing:

Rated speed rpm : 325  
rack travel mm : 4.50  
Tolerance mm : +- 0.10

Rated speed rpm : 225  
CRT mm min. : > 6.00

---

CONTINUOUS-ACTION CONTROL

Rated speed rpm : 375

---

TORQUE CONTROL

Rated speed rpm : 1000  
rack travel mm : 11.85  
Tolerance mm : +- 0.05

Rated speed rpm : 700  
rack travel mm : 11.85  
Tolerance mm : +- 0.05

Rated speed rpm : 1300  
rack travel mm : 11.85  
Tolerance mm : +- 0.05

---

ANEROID/ALTITUDE  
COMPENSATOR TEST

SETTING

Rated speed rpm : 600  
Pressure hPa : 1000  
rack travel mm : 11.85  
Tolerance mm : +- 0.05

MEASUREMENT

Pressure hPa : -  
Rated speed rpm : 600  
rack travel mm : 7.35  
Tolerance mm : +- 0.20

Rated speed rpm : 600

Pressure hPa : 370  
rack travel mm : 10.75  
Tolerance mm : +- 0.05

Pressure hPa : 200  
rack travel mm : 8.40  
Tolerance mm : +- 0.10

---

FUEL DELIVERY CHARACTERISTICS

Aneroid pressure  
hPa : 1000  
Rated speed rpm : 700  
Del. quantity  
cm<sup>3</sup>/1000 strokes : 145.0  
Tolerance  
cm<sup>3</sup>/1000 strokes : +- 2.0  
Check tolerance  
cm<sup>3</sup>/1000S. : +- 5.0

Aneroid pressure  
hPa : -  
Rated speed rpm : 600  
Del. quantity  
cm<sup>3</sup>/1000 strokes : 98.5  
Tolerance  
cm<sup>3</sup>/1000 strokes : +- 1.0  
Check tolerance  
cm<sup>3</sup>/1000S. : +- 3.5

---

BREAKAWAY

Rack travel in mm : 10.85  
Rated speed rpm : 1342  
Tolerance 1/min : +- 5

---

LOW IDLE

Rated speed rpm : 325  
rack travel mm : 5.20  
Tolerance mm : +- 0.10  
Del. quantity  
cm<sup>3</sup>/1000 strokes : 26.0  
Tolerance  
cm<sup>3</sup>/1000 strokes : +- 2.5  
Check tolerance  
cm<sup>3</sup>/1000S. : +- 5.0  
Speed  
Tolerance  
cm<sup>3</sup>/1000 strokes : 4.5

Check tolerance : 7.5  
cm<sup>3</sup>/1000S.





# BOSCH INJ. PUMP TEST SPECIFICATIONS

## Note remarks

Refer to Service Info for test and adjustment instructions.  
See microcard(s) W400/...

Edition : 02.01.95  
Test oil : ISO 4113  
Combination No. : 0402646654  
Injection pump  
Pump designation : PE6P120A320RS7360Z  
EP type number : 0412626937  
Governor  
Governor design. : RQ275/1150PA1193  
Governor no. : 0421801752

Cust. part No. : 1285911/2

---

Customer-spec. information  
Customer : DAF  
Motor : GS 160 M  
Power KW : 160.0

## TEST BENCH REQUIREMENTS

Test oil inlet  
temp. °C : 40  
Tolerance °C : ± 2.0  
Overflow valve : 1417413025  
Inlet press. bar : 1.5  
Tolerance bar : ± 0.1  
Test nozzle holder  
assembly : 1688901105  
Opening pressure  
bar : 208.5  
Tolerance bar : ± 1.5  
Test lines : 1680750089  
Outside diameter : 8.0

x inside diameter : 3.0  
x length mm : 600

---

## REMARKS

(A) INJECTION PUMP SETTING VALUES  
Set equal delivery quant.  
per values \_\_\_\_\_

---

## BEGINNING OF DELIVERY

Test pressure bar : 31.0  
Tolerance bar : ± 1.0  
Prestroke mm : 5.15  
Tolerance mm : ± 0.05  
test only : ± 0.10  
Rack travel in mm : 11.40  
Tolerance mm : ± 0.50  
Firing order : 1- 5- 3- 6- 2-  
: 4  
Phasing : 0-60-120-180-240  
: -300  
Tolerance : ± 0.30  
Check  
tolerance °NW : ± 0.50

---

## BEGINNING OF DELIVERY DIFFERENCE

Time to cyl. no. : 1

---

## BASIC SETTING

Rated speed rpm : 1000  
Rack travel in mm : 10.40  
Tolerance mm : ± 0.05  
Del. quantity  
cm<sup>3</sup>/1000 strokes : 150.0

Tolerance  
cm<sup>3</sup>/1000 strokes : ± 1.0

---

Check tolerance  
cm<sup>3</sup>/1000S. : ± 4.0

---

Speed  
Tolerance  
cm<sup>3</sup>/1000 strokes : 5.0

---

Check tolerance  
cm<sup>3</sup>/1000S. : 9.0

2nd speed rpm : 275

Rack travel in mm : 4.90  
Tolerance mm : ± 0.10

Del. quantity  
cm<sup>3</sup>/1000 strokes : 15.0

Tolerance  
cm<sup>3</sup>/1000 strokes : ± 3.0

Check tolerance  
cm<sup>3</sup>/1000S. : ± 6.0

Speed  
Tolerance  
cm<sup>3</sup>/1000 strokes : 8.0

Check tolerance  
cm<sup>3</sup>/1000S. : 12.0

(B) SETTING OF INJECTION PUMP  
WITH GOVERNOR

---

GUIDE SLEEVE TRAVEL

Rated speed rpm : 275  
guide sleeve  
travel mm : 1.92  
Tolerance mm : ± 0.10

Rated speed rpm : 1206  
guide sleeve  
travel mm : 6.49  
Tolerance mm : ± 0.10

Rated speed rpm : 1150  
guide sleeve  
travel mm : 6.00  
Tolerance mm : ± 0.10

Rated speed rpm : 351  
guide sleeve  
travel mm : 4.25  
Tolerance mm : ± 0.10

Rated speed rpm : 440  
guide sleeve  
travel mm : 6.00  
Tolerance mm : ± 0.10

Rated speed rpm : 1360  
guide sleeve  
travel mm : 11.50  
Tolerance mm : ± 0.10

---

GUIDE SLEEVE POSITION

control lever  
position degree : - 1  
Rated speed rpm : 550

Rack travel in mm : 15.80  
Tolerance mm : ± 0.60

---

FULL LOAD DELIVERY AT FULL LOAD STOP

Rated speed rpm : 1000  
Aneroid pressure  
hPa : 1000

Del. quantity  
cm<sup>3</sup>/1000 strokes : 150.0

Tolerance  
cm<sup>3</sup>/1000 strokes : ± 1.0

Check tolerance  
cm<sup>3</sup>/1000S. : ± 4.0

Speed  
Tolerance  
cm<sup>3</sup>/1000 strokes : 5.0

Check tolerance  
cm<sup>3</sup>/1000S. : 9.0

---

RATED SPEED

control lever  
position degree : 97.0  
tolerance degree : ± 4.0

rack travel mm : 9.40  
Rated speed rpm : 1202  
Tolerance 1/min : ± 8

rack travel mm : 4.00  
Rated speed rpm : 1265  
Tolerance 1/min : ± 15

rack travel mm : 0.70  
Tolerance mm : ± 0.70  
Rated speed rpm : 1450

---

LOW IDLE

control lever  
position degree : 74.0  
tolerance degree : +- 4.0

Testing:

Rated speed rpm : 275  
rack travel mm : 4.90  
Tolerance mm : +- 0.10

rack travel mm : 2.00  
Rated speed rpm : 340  
Tolerance 1/min : +- 20

Rated speed rpm : 175

CRT mm min. : > 7.00

---

TORQUE CONTROL

Rated speed rpm : 1000  
rack travel mm : 10.40  
Tolerance mm : +- 0.05

Rated speed rpm : 1150  
rack travel mm : 10.40  
Tolerance mm : +- 0.10

---

ANEROID/ALTITUDE  
COMPENSATOR TEST

SETTING

Rated speed rpm : 600  
Pressure hPa : 1000  
rack travel mm : 10.40  
Tolerance mm : +- 0.05

MEASUREMENT

Pressure hPa : -  
Rated speed rpm : 600  
rack travel mm : 9.50  
Tolerance mm : +- 0.10

Rated speed rpm : 600

Pressure hPa : 290  
rack travel mm : 10.15  
Tolerance mm : +- 0.05

Pressure hPa : 250  
rack travel mm : 9.80  
Tolerance mm : +- 0.10

---

FUEL DELIVERY CHARACTERISTICS

Aneroid pressure  
hPa : -  
Rated speed rpm : 600  
Del. quantity  
cm<sup>3</sup>/1000 strokes : 131.5  
Tolerance  
cm<sup>3</sup>/1000 strokes : +- 1.0  
Check tolerance  
cm<sup>3</sup>/1000S. : +- 4.0

---

BREAKAWAY

Rack travel in mm : 9.40  
Rated speed rpm : 1202  
Tolerance 1/min : +- 8

---

LOW IDLE

Rated speed rpm : 275  
rack travel mm : 4.90  
Tolerance mm : +- 0.10  
Del. quantity  
cm<sup>3</sup>/1000 strokes : 15.0  
Tolerance  
cm<sup>3</sup>/1000 strokes : +- 3.0  
Check tolerance  
cm<sup>3</sup>/1000S. : +- 6.0  
Spreed  
Tolerance  
cm<sup>3</sup>/1000 strokes : 8.0  
Check tolerance  
cm<sup>3</sup>/1000S. : 12.0

BOSCH INJ. PUMP TEST SPECIFICATIONS

Note remarks

Refer to Service Info for test and adjustment instructions.  
See microcard(s) W400/...

Edition : 03.01.95  
Test oil : ISO 4113  
  
Combination No. : 0402676818  
  
Injection pump  
Pump designation : PE6P120A32ORS7326  
EP type number : 0412626915  
  
Governor  
Governor design. : RSV275...1000P1A573  
Governor no. : 0421833429

Cust. part No. : 1265070/3

Customer-spec. information  
Customer : DAF  
Motor : WS 268 L AG  
Power KW : 268.0

TEST BENCH REQUIREMENTS

Test oil inlet  
temp. °C : 40  
Tolerance °C : ± 2.0

Overflow valve : 1417413025

Inlet press. bar : 1.5  
Tolerance bar : ± 0.1

Tolerance L/h : ± 10.0

Test nozzle holde  
assembly : 1688901105

Opening pressure  
bar : 208.5  
Tolerance bar : ± 1.5

Lube oil : 1409918004

Test lines : 1680750089  
Outside diameter : 8.0  
x inside diameter : 3.0  
x length mm : 600

REMARKS

(A) INJECTION PUMP SETTING VALUES  
Set equal delivery quant.  
per values \_\_\_\_\_

BEGINNING OF DELIVERY

Test pressure bar : 31.0  
Tolerance bar : ± 1.0

Prestroke mm : 5.35  
Tolerance mm : ± 0.05

test only : ± 0.10

Rack travel in mm : 14.50  
Tolerance mm : ± 0.50

Firing order : 1- 5- 3- 6- 2-  
: 4

Phasing : 0-60-120-180-240  
: -300  
Tolerance : ± 0.30  
Check  
tolerance °NW : ± 0.75

BEGINNING OF DELIVERY DIFFERENCE

Time to cyl. no. : 1

BASIC SETTING

Rated speed rpm : 850

Rack travel in mm : 14.95  
 Tolerance mm : + 0.05

---

Del. quantity  
 cm<sup>3</sup>/1000 strokes : 235.0

---

Tolerance  
 cm<sup>3</sup>/1000 strokes : + 1.0

---

Check tolerance  
 cm<sup>3</sup>/1000S. : + 4.0

---

Spreed  
 Tolerance  
 cm<sup>3</sup>/1000 strokes : 5.0

---

Check tolerance  
 cm<sup>3</sup>/1000S. : 9.0

---

2nd speed rpm : 275

---

Rack travel in mm : 6.20  
 Tolerance mm : + 0.10  
 Del. quantity  
 cm<sup>3</sup>/1000 strokes : 17.0  
 Tolerance  
 cm<sup>3</sup>/1000 strokes : + 3.0  
 Check tolerance  
 cm<sup>3</sup>/1000S. : + 6.0  
 Spreed  
 Tolerance  
 cm<sup>3</sup>/1000 strokes : 8.0  
 Check tolerance  
 cm<sup>3</sup>/1000S. : 12.0

(B) SETTING OF INJECTION PUMP WITH GOVERNOR

---

GUIDE SLEEVE POSITION

control lever  
 position degree : - 3  
 Rated speed rpm : 800

Rack travel in mm : 0.50  
 Tolerance mm : + 0.20

governor spring  
 pre-tension  
 click setting x : 4.00

---

FULL LOAD DELIVERY AT FULL LOAD STOP

Rated speed rpm : 850

Aneroid pressure  
 hPa : 1000  
 Del. quantity  
 cm<sup>3</sup>/1000 strokes : 235.0  
 Tolerance  
 cm<sup>3</sup>/1000 strokes : + 1.0  
 Check tolerance  
 cm<sup>3</sup>/1000S. : + 4.0  
 Spreed  
 Tolerance  
 cm<sup>3</sup>/1000 strokes : 5.0  
 Check tolerance  
 cm<sup>3</sup>/1000S. : 9.0

---

RATED SPEED

control lever  
 position degree : 107.0  
 tolerance degree : + 4.0

rack travel mm : 13.95  
 Rated speed rpm : 1032  
 Tolerance 1/min : + 8

rack travel mm : 4.00  
 Rated speed rpm : 1100  
 Tolerance 1/min : + 15

rack travel mm : 0.85  
 Tolerance mm : + 0.55  
 Rated speed rpm : 1250

rack travel mm : 4.00  
 Rated speed rpm : 1110

---

LOW IDLE

control lever  
 position degree : 72.0  
 tolerance degree : + 4.0

Setting point w/out bumper spring

Rated speed rpm : 275  
 rack travel mm : 4.50

Testing:

Rated speed rpm : 275  
 rack travel mm : 5.00  
 Tolerance mm : + 0.10

rack travel mm : 2.00  
 Rated speed rpm : 360  
 Tolerance 1/min : + 30

---

TORQUE CONTROL

Rated speed rpm : 850  
rack travel mm : 14.95  
Tolerance mm : ± 0.05

Rated speed rpm : 1000  
rack travel mm : 14.90  
Tolerance mm : ± 0.10

---

ANEROID/ALTITUDE  
COMPENSATOR TEST

SETTING

Rated speed rpm : 600  
Pressure hPa : 1000  
rack travel mm : 14.95  
Tolerance mm : ± 0.05

MEASUREMENT

Pressure hPa : -  
Rated speed rpm : 600  
rack travel mm : 12.40  
Tolerance mm : ± 0.10

Rated speed rpm : 600

Pressure hPa : 490  
rack travel mm : 14.25  
Tolerance mm : ± 0.05

Pressure hPa : 280  
rack travel mm : 12.90  
Tolerance mm : ± 0.10

---

FUEL DELIVERY CHARACTERISTICS

Aneroid pressure  
hPa : -  
Rated speed rpm : 600  
Del. quantity  
cm<sup>3</sup>/1000 strokes : 159.0  
Tolerance  
cm<sup>3</sup>/1000 strokes : ± 1.0  
Check tolerance  
cm<sup>3</sup>/1000S. : ± 4.0

---

BREAKAWAY

Rack travel in mm : 13.95

Rated speed rpm : 1032  
Tolerance 1/min : ± 8

---

LOW IDLE

Rated speed rpm : 275  
rack travel mm : 6.20  
Tolerance mm : ± 0.10

Del. quantity  
cm<sup>3</sup>/1000 strokes : 17.0  
Tolerance  
cm<sup>3</sup>/1000 strokes : ± 3.0  
Check tolerance  
cm<sup>3</sup>/1000S. : ± 6.0

Spread  
Tolerance  
cm<sup>3</sup>/1000 strokes : 8.0  
Check tolerance  
cm<sup>3</sup>/1000S. : 12.0

BOSCH INJ. PUMP TEST SPECIFICATIONS

Note remarks

Refer to Service Info for test and adjustment instructions.  
See microcard(s) W400/...

Edition : 12.12.94  
Test oil : ISO 4113  
Combination No. : 0402036749  
Injection pump  
Pump designation : PES6P110A12ORS3286  
EP type number : 0412016737  
Governor  
Governor design. : RQV350...1150PA1014  
                  : -2K  
Governor no. : 0421815296  
Cust. part No. : 3921971

Customer-spec. information  
Customer : CUMMINS  
Motor : 6CTA-A  
Power KW : 168.0

TEST BENCH REQUIREMENTS

Test oil inlet  
temp. °C : 40  
Tolerance °C : ± 2.0  
Overflow valve : 1419992198  
Inlet press. bar : 1.5  
Test nozzle holder  
assembly : 1688901101  
Opening pressure  
bar : 208.5  
Tolerance bar : ± 1.5  
Test lines : 1680750008  
Outside diameter : 6.0

x inside diameter : 2.0  
x length mm : 600

REMARKS

(A) INJECTION PUMP SETTING VALUES  
Set equal delivery quant.  
per values \_\_\_\_\_

BEGINNING OF DELIVERY

Test pressure bar : 31.0  
Tolerance bar : ± 1.0  
Prestroke mm : 3.25  
Tolerance mm : ± 0.05  
test only : ± 0.10  
Rack travel in mm : 10.50  
Tolerance mm : ± 1.50  
Firing order : 1- 5- 3- 6- 2-  
                  : 4  
Phasing : 0-60-120-180-240  
          : -300  
Tolerance : ± 0.30  
Check  
tolerance °NW : ± 0.50

BEGINNING OF DELIVERY DIFFERENCE

Time to cyl. no. : 1  
S.o.d. blocking  
Barrel no. : 1  
Tolerance : ± 0.10  
Check  
tolerance °NW : ± 0.23

BASIC SETTING

Rated speed rpm : 1100  
Rack travel in mm : 15.45

Tolerance mm	: ± 0.05
<hr/>	
Del. quantity cm <sup>3</sup> /1000 strokes	: 154.0
<hr/>	
Tolerance cm <sup>3</sup> /1000 strokes	: ± 1.0
<hr/>	
Check tolerance cm <sup>3</sup> /1000S.	: ± 3.0
<hr/>	
Spreed Tolerance cm <sup>3</sup> /1000 strokes	: 4.0
<hr/>	
Check tolerance cm <sup>3</sup> /1000S.	: 7.5

(B) SETTING OF INJECTION PUMP  
WITH GOVERNOR

GUIDE SLEEVE POSITION

control lever position degree	: - 1
----------------------------------	-------

FULL LOAD DELIVERY AT FULL LOAD STOP

Rated speed rpm	: 1100
Aneroid pressure hPa	: 1200
Del. quantity cm <sup>3</sup> /1000 strokes	: 154.0
Tolerance cm <sup>3</sup> /1000 strokes	: ± 1.0
Check tolerance cm <sup>3</sup> /1000S.	: ± 3.0
Spreed Tolerance cm <sup>3</sup> /1000 strokes	: 4.0
Check tolerance cm <sup>3</sup> /1000S.	: 7.5

RATED SPEED

control lever position degree	: 112.0
tolerance degree	: ± 4.0
<hr/>	
control lever position degree	: 59.0
tolerance degree	: ± 4.0

rack travel mm	: 14.20
Rated speed rpm	: 1220
Tolerance 1/min	: ± 5
<hr/>	
rack travel mm	: 4.00
Rated speed rpm	: 1395
Tolerance 1/min	: ± 15
<hr/>	
rack travel mm	: 0.50
Tolerance mm	: ± 0.50
Rated speed rpm	: 1500

LOW IDLE

control lever position degree	: 16.0
tolerance degree	: ± 4.0

control lever position degree	: 69.0
tolerance degree	: ± 4.0

Testing:

Rated speed rpm	: 350
rack travel mm	: 6.00
Tolerance mm	: ± 0.10

Rated speed rpm	: 275
-----------------	-------

CRT mm min.	: > 7.30
-------------	----------

CONTINUOUS-ACTION CONTROL

Rated speed rpm	: 350
-----------------	-------

TORQUE CONTROL

Rated speed rpm	: 1100
rack travel mm	: 15.45
Tolerance mm	: ± 0.05

Rated speed rpm	: 750
rack travel mm	: 14.30
Tolerance mm	: ± 0.20

Rated speed rpm	: 1150
rack travel mm	: 15.30
Tolerance mm	: ± 0.10

Rated speed rpm	: 650
rack travel mm	: 14.10
Tolerance mm	: ± 0.20



---

ANEROID/ALTITUDE  
COMPENSATOR TEST

SETTING

Rated speed rpm : 1100  
Pressure hPa : 1200  
rack travel mm : 15.45  
Tolerance mm :  $\pm$  0.05

MEASUREMENT

Rated speed rpm : 1100  
Pressure hPa : 600  
rack travel mm : 13.80  
Tolerance mm :  $\pm$  0.20  
Pressure hPa : 290  
rack travel mm : 10.65  
Tolerance mm :  $\pm$  0.05

---

START CUT-OUT

Rated speed rpm :  $>$  100  
Check  
speed 1/min :  $>$  80  
Rated speed rpm :  $<$  290  
Check  
speed 1/min :  $<$  300

---

FUEL DELIVERY CHARACTERISTICS

Aneroid pressure  
hPa : 1200  
Rated speed rpm : 750  
Del. quantity  
cm<sup>3</sup>/1000 strokes : 156.0  
Tolerance  
cm<sup>3</sup>/1000 strokes :  $\pm$  2.0  
Check tolerance  
cm<sup>3</sup>/1000S. :  $\pm$  4.0  
Speed  
Tolerance  
cm<sup>3</sup>/1000 strokes : 8.0  
Check tolerance  
cm<sup>3</sup>/1000S. : 12.0

Aneroid pressure  
hPa : -  
Rated speed rpm : 500  
Del. quantity  
cm<sup>3</sup>/1000 strokes : 76.5  
Tolerance  
cm<sup>3</sup>/1000 strokes :  $\pm$  2.0

Check tolerance  
cm<sup>3</sup>/1000S. :  $\pm$  4.0

---

BREAKAWAY

Rack travel in mm : 14.20  
Rated speed rpm : 1220  
Tolerance 1/min :  $\pm$  5

---

STARTING FUEL DELIVERY

Rated speed rpm : 100  
rack travel mm : 11.00  
Tolerance mm :  $\pm$  1.00  
Del. quantity  
cm<sup>3</sup>/1000 strokes : 155.0  
Tolerance  
cm<sup>3</sup>/1000 strokes :  $\pm$  20.0  
Check tolerance  
cm<sup>3</sup>/1000S. :  $\pm$  25.0

BOSCH INJ. PUMP TEST SPECIFICATIONS

Note remarks

Refer to Service Info for test and adjustment instructions.  
See microcard(s) W400/...

Edition : 12.12.94  
Test oil : ISO 4113

Combination No. : 0402036750

Injection pump  
Pump designation : PES6P110A120RS3286  
EP type number : 0412016737

Governor  
Governor design. : RQV350...1150PA1014  
: -3K  
Governor no. : 0421815298

Cust. part No. : 3921972

---

Customer-spec. information  
Customer : CDC  
Motor : 6CTA-A  
Power KW : 156.5

---

TEST BENCH REQUIREMENTS

Test oil inlet  
temp. °C : 40  
Tolerance °C : ± 2.0

Overflow valve : 1419992198

Inlet press. bar : 1.5

Test nozzle holder  
assembly : 1688901101

Opening pressure  
bar : 208.5  
Tolerance bar : ± 1.5

Test lines : 1680750008

Outside diameter : 6.0

HO4

x inside diameter : 2.0  
x length mm : 600

---

REMARKS

(A) INJECTION PUMP SETTING VALUES  
Set equal delivery quant.  
per values \_\_\_\_\_

---

BEGINNING OF DELIVERY

Test pressure bar : 31.0  
Tolerance bar : ± 1.0

Prestroke mm : 3.25  
Tolerance mm : ± 0.05

test only : ± 0.10

Rack travel in mm : 10.50  
Tolerance mm : ± 1.50

Firing order : 1- 5- 3- 6- 2-  
: 4

Phasing : 0-60-120-180-240  
: -300  
Tolerance : ± 0.30  
Check  
tolerance °NW : ± 0.50

---

BEGINNING OF DELIVERY DIFFERENCE

Time to cyl. no. : 1  
S.o.d. blocking  
Barrel no. : 1  
Tolerance : ± 0.10  
Check  
tolerance °NW : ± 0.23

---

BASIC SETTING

Rated speed rpm : 1100

---

Rack travel in mm : 14.65

Tolerance mm :  $\pm$  0.05

---

Del. quantity  
cm<sup>3</sup>/1000 strokes : 144.5

---

Tolerance  
cm<sup>3</sup>/1000 strokes :  $\pm$  1.0

---

Check tolerance  
cm<sup>3</sup>/1000S. :  $\pm$  3.0

---

Spread  
Tolerance  
cm<sup>3</sup>/1000 strokes : 4.0

---

Check tolerance  
cm<sup>3</sup>/1000S. : 7.5

(B) SETTING OF INJECTION PUMP  
WITH GOVERNOR

---

GUIDE SLEEVE POSITION

control lever  
position degree : - 1

---

FULL LOAD DELIVERY AT FULL LOAD STOP

Rated speed rpm : 1100  
Aneroid pressure  
hPa : 1200  
Del. quantity  
cm<sup>3</sup>/1000 strokes : 144.5  
Tolerance  
cm<sup>3</sup>/1000 strokes :  $\pm$  1.0  
Check tolerance  
cm<sup>3</sup>/1000S. :  $\pm$  3.0  
Spread  
Tolerance  
cm<sup>3</sup>/1000 strokes : 4.0  
Check tolerance  
cm<sup>3</sup>/1000S. : 7.5

---

RATED SPEED

control lever  
position degree : 109.0  
tolerance degree :  $\pm$  4.0

control lever  
position degree : 56.0  
tolerance degree :  $\pm$  4.0

rack travel mm : 13.40  
Rated speed rpm : 1225  
Tolerance 1/min :  $\pm$  5

rack travel mm : 4.00  
Rated speed rpm : 1380  
Tolerance 1/min :  $\pm$  15

rack travel mm : 0.50  
Tolerance mm :  $\pm$  0.50  
Rated speed rpm : 1500

---

LOW IDLE

control lever  
position degree : 14.0  
tolerance degree :  $\pm$  4.0

control lever  
position degree : 67.0  
tolerance degree :  $\pm$  4.0

Testing:

Rated speed rpm : 350  
rack travel mm : 6.00  
Tolerance mm :  $\pm$  0.10

Rated speed rpm : 275  
CRT mm min. : > 7.30

---

CONTINUOUS-ACTION CONTROL

Rated speed rpm : 435

---

TORQUE CONTROL

Rated speed rpm : 1100  
rack travel mm : 14.65  
Tolerance mm :  $\pm$  0.05

Rated speed rpm : 750  
rack travel mm : 13.60  
Tolerance mm :  $\pm$  0.10

Rated speed rpm : 1150  
rack travel mm : 14.50  
Tolerance mm :  $\pm$  0.10

Rated speed rpm : 650  
rack travel mm : 13.40  
Tolerance mm :  $\pm$  0.20

---

ANEROID/ALTITUDE  
COMPENSATOR TEST

SETTING

Rated speed rpm : 1100  
Pressure hPa : 1200  
rack travel mm : 14.65  
Tolerance mm : ± 0.05

MEASUREMENT

Rated speed rpm : 1100  
Pressure hPa : 600  
rack travel mm : 13.80  
Tolerance mm : ± 0.20  
Pressure hPa : 290  
rack travel mm : 10.65  
Tolerance mm : ± 0.05

---

START CUT-OUT

Rated speed rpm : > 100  
Check  
speed 1/min : > 80  
Rated speed rpm : < 290  
Check  
speed 1/min : < 300

---

FUEL DELIVERY CHARACTERISTICS

Aneroid pressure  
hPa : 1200  
Rated speed rpm : 750  
Del. quantity  
cm<sup>3</sup>/1000 strokes : 141.0  
Tolerance  
cm<sup>3</sup>/1000 strokes : ± 2.0  
Check tolerance  
cm<sup>3</sup>/1000S. : ± 4.0  
Spreed  
Tolerance  
cm<sup>3</sup>/1000 strokes : 8.0  
Check tolerance  
cm<sup>3</sup>/1000S. : 12.0

Aneroid pressure  
hPa : -  
Rated speed rpm : 500  
Del. quantity  
cm<sup>3</sup>/1000 strokes : 76.5  
Tolerance  
cm<sup>3</sup>/1000 strokes : ± 2.0

Check tolerance  
cm<sup>3</sup>/1000S. : ± 4.0

---

BREAKAWAY

Rack travel in mm : 13.40  
Rated speed rpm : 1225  
Tolerance 1/min : ± 5

---

STARTING FUEL DELIVERY

Rated speed rpm : 100  
rack travel mm : 11.00  
Tolerance mm : ± 1.00  
Del. quantity  
cm<sup>3</sup>/1000 strokes : 155.0  
Tolerance  
cm<sup>3</sup>/1000 strokes : ± 20.0  
Check tolerance  
cm<sup>3</sup>/1000S. : ± 25.0

BOSCH INJ. PUMP TEST SPECIFICATIONS

Note remarks

Refer to Service Info for test and adjustment instructions.  
See microcard(s) W400/...

Edition : 12.12.94  
Test oil : ISO 4113  
Combination No. : 0402036751  
Injection pump  
Pump designation : PES6P110A120RS3286  
EP type number : 0412016737  
Governor  
Governor design. : RQV350...1200PA1014  
                  : -4K  
Governor no. : 0421815299  
Cust. part No. : 3921973

Customer-spec. information  
Customer : CDC  
Motor : 6CTA-A  
Power KW : 156.5

TEST BENCH REQUIREMENTS

Test oil inlet  
temp. °C : 40  
Tolerance °C : ± 2.0  
Overflow valve : 1419992198  
Inlet press. bar : 1.5  
Test nozzle holder  
assembly : 1688901101  
Opening pressure  
bar : 208.5  
Tolerance bar : ± 1.5  
Test lines : 1680750008  
Outside diameter : 6.0

x inside diameter : 2.0  
x length mm : 600

REMARKS

(A) INJECTION PUMP SETTING VALUES  
Set equal delivery quant.  
per values \_\_\_\_\_

BEGINNING OF DELIVERY

Test pressure bar : 31.0  
Tolerance bar : ± 1.0  
Prestroke mm : 3.25  
Tolerance mm : ± 0.05  
test only : ± 0.10  
Rack travel in mm : 10.50  
Tolerance mm : ± 1.50  
Firing order : 1- 5- 3- 6- 2-  
                  : 4  
Phasing : 0-60-120-180-240  
          : -300  
Tolerance : ± 0.30  
Check  
tolerance °NW : ± 0.50

BEGINNING OF DELIVERY DIFFERENCE

Time to cyl. no. : 1  
Tolerance : ± 0.10  
Check  
tolerance °NW : ± 0.23

BASIC SETTING

Rated speed rpm : 1100  
Rack travel in mm : 14.55  
Tolerance mm : ± 0.05

Del. quantity  
cm<sup>3</sup>/1000 strokes : 142.5

---

Tolerance  
cm<sup>3</sup>/1000 strokes : + 1.0

---

Check tolerance  
cm<sup>3</sup>/1000S. : + 3.0

---

Spread  
Tolerance  
cm<sup>3</sup>/1000 strokes : 4.0

---

Check tolerance  
cm<sup>3</sup>/1000S. : 7.5

(B) SETTING OF INJECTION PUMP  
WITH GOVERNOR

GUIDE SLEEVE POSITION

control lever  
position degree : - 1

FULL LOAD DELIVERY AT FULL LOAD STOP

Rated speed rpm : 1100  
Aneroid pressure  
hPa : 1200  
Del. quantity  
cm<sup>3</sup>/1000 strokes : 142.5  
Tolerance  
cm<sup>3</sup>/1000 strokes : + 1.0  
Check tolerance  
cm<sup>3</sup>/1000S. : + 3.0  
Spread  
Tolerance  
cm<sup>3</sup>/1000 strokes : 4.0  
Check tolerance  
cm<sup>3</sup>/1000S. : 7.5

RATED SPEED

control lever  
position degree : 58.0  
tolerance degree : + 4.0

rack travel mm : 13.30  
Rated speed rpm : 1275  
Tolerance 1/min : + 5

rack travel mm : 4.00  
Rated speed rpm : 1415

Tolerance 1/min : + 15

rack travel mm : 0.50  
Tolerance mm : + 0.50  
Rated speed rpm : 1500

LOW IDLE

control lever  
position degree : 14.0  
tolerance degree : + 4.0

Testing:

Rated speed rpm : 350  
rack travel mm : 5.90  
Tolerance mm : + 0.10

Rated speed rpm : 275

CRT mm min. : > 7.30

CONTINUOUS-ACTION CONTROL

Rated speed rpm : 435

TORQUE CONTROL

Rated speed rpm : 1100  
rack travel mm : 14.55  
Tolerance mm : + 0.05

Rated speed rpm : 750  
rack travel mm : 13.50  
Tolerance mm : + 0.10

Rated speed rpm : 1150  
rack travel mm : 14.40  
Tolerance mm : + 0.10

Rated speed rpm : 650  
rack travel mm : 13.30  
Tolerance mm : + 0.20

ANEROID/ALTITUDE  
COMPENSATOR TEST

SETTING

Rated speed rpm : 1100  
Pressure hPa : 1200  
rack travel mm : 14.55  
Tolerance mm : + 0.05

MEASUREMENT

Pressure hPa : -  
Rated speed rpm : 1100  
rack travel mm : 9.10  
Tolerance mm : ± 0.20

Rated speed rpm : 1100

Pressure hPa : 475  
rack travel mm : 13.20  
Tolerance mm : ± 0.20

Pressure hPa : 215  
rack travel mm : 10.45  
Tolerance mm : ± 0.05

START CUT-OUT

Rated speed rpm : > 100  
Check  
speed 1/min : > 80  
Rated speed rpm : < 290  
Check  
speed 1/min : < 300

FUEL DELIVERY CHARACTERISTICS

Aneroid pressure  
hPa : 1200  
Rated speed rpm : 750  
Del. quantity  
cm<sup>3</sup>/1000 strokes : 139.0  
Tolerance  
cm<sup>3</sup>/1000 strokes : ± 2.0  
Check tolerance  
cm<sup>3</sup>/1000S. : ± 4.0  
Speed  
Tolerance  
cm<sup>3</sup>/1000 strokes : 8.0  
Check tolerance  
cm<sup>3</sup>/1000S. : 12.0

Aneroid pressure  
hPa : -  
Rated speed rpm : 500  
Del. quantity  
cm<sup>3</sup>/1000 strokes : 76.5  
Tolerance  
cm<sup>3</sup>/1000 strokes : ± 2.0  
Check tolerance  
cm<sup>3</sup>/1000S. : ± 4.0

BREAKAWAY

Rack travel in mm : 13.30

Rated speed rpm : 1275  
Tolerance 1/min : ± 5

STARTING FUEL DELIVERY

Rated speed rpm : 100  
Del. quantity  
cm<sup>3</sup>/1000 strokes : 155.0  
Tolerance  
cm<sup>3</sup>/1000 strokes : ± 20.0  
Check tolerance  
cm<sup>3</sup>/1000S. : ± 25.0

BOSCH INJ. PUMP TEST SPECIFICATIONS

Note remarks

Refer to Service Info for test and adjustment instructions.  
See microcard(s) W400/...

Edition : 13.01.95  
Test oil : ISO 4113  
  
Combination No. : 0402618805  
  
Injection pump  
Pump designation : PE8P130A900/5LS7841  
: -1  
EP type number : 0412638807  
  
Governor  
Governor design. :  
Governor no. :  
  
Cust. part No. :

Customer-spec. information  
Customer : IVECO-AIFO  
Motor : 8281 SRI 27.00

TEST BENCH REQUIREMENTS

Test oil inlet  
temp. °C : 40  
Tolerance °C : ± 2.0  
  
Overflow valve : 2417413076  
  
Inlet press. bar : 2.5  
Tolerance bar : ± 0.1  
  
Test nozzle holde  
assembly : 1688901105  
  
Opening pressure  
bar : 208.5  
Tolerance bar : ± 1.5  
  
Test Lines : 1680750075  
  
Outside diameter : 8.0

x inside diameter : 3.0  
x length mm : 1000

REMARKS

(A) INJECTION PUMP SETTING VALUES  
Set equal delivery quant.  
per values \_\_\_\_\_

BEGINNING OF DELIVERY

Test pressure bar : 31.0  
Tolerance bar : ± 1.0  
  
Prestroke mm : 5.05  
Tolerance mm : ± 0.05  
  
test only : ± 0.10  
  
Rack travel in mm : 12.00  
Tolerance mm : ± 0.50  
  
Firing order : 1- 8- 4- 3- 6  
: - 5- 7- 2  
  
Phasing : 0-45-90-135-180  
: -225-270-315  
Tolerance : ± 0.50  
Check  
tolerance °NW : ± 0.75

BEGINNING OF DELIVERY DIFFERENCE

S.o.d. blocking  
Barrel no. : 1

BASIC SETTING

Rated speed rpm : 550  
  
Rack travel in mm : 10.55  
Tolerance mm : ± 0.05  
  
Del. quantity  
cm<sup>3</sup>/1000 strokes : 215.0



<hr/>	
Tolerance	
cm <sup>3</sup> /1000 strokes	: ± 1.0
<hr/>	
Check tolerance	
cm <sup>3</sup> /1000S.	: ± 4.0
<hr/>	
Spreed	
Tolerance	
cm <sup>3</sup> /1000 strokes	: 8.0
<hr/>	
Check tolerance	
cm <sup>3</sup> /1000S.	: 12.0
<hr/>	
2nd speed rpm	: 300
<hr/>	
Rack travel in mm	: 4.20
Tolerance mm	: ± 0.20
Del. quantity	
cm <sup>3</sup> /1000 strokes	: 25.0
Tolerance	
cm <sup>3</sup> /1000 strokes	: ± 3.0
Check tolerance	
cm <sup>3</sup> /1000S.	: ± 6.0
Spreed	
Tolerance	
cm <sup>3</sup> /1000 strokes	: 5.0
Check tolerance	
cm <sup>3</sup> /1000S.	: 9.0

(B) SETTING OF INJECTION PUMP  
WITH GOVERNOR

---

FULL LOAD DELIVERY AT FULL LOAD STOP

Rated speed rpm	: 550
Aneroid pressure	
hPa	: -
Del. quantity	
cm <sup>3</sup> /1000 strokes	: 215.0
Tolerance	
cm <sup>3</sup> /1000 strokes	: ± 1.0
Check tolerance	
cm <sup>3</sup> /1000S.	: ± 4.0
Spreed	
Tolerance	
cm <sup>3</sup> /1000 strokes	: 8.0
Check tolerance	
cm <sup>3</sup> /1000S.	: 12.0

---

TORQUE CONTROL

Rated speed rpm	: 550
rack travel mm	: 10.55

Tolerance mm	: ± 0.05
Rated speed rpm	: 950
rack travel mm	: 10.50
Tolerance mm	: ± 0.10

---

FUEL DELIVERY CHARACTERISTICS

Aneroid pressure	
hPa	: -
Rated speed rpm	: 950
Del. quantity	
cm <sup>3</sup> /1000 strokes	: 217.0
Tolerance	
cm <sup>3</sup> /1000 strokes	: ± 3.0
Check tolerance	
cm <sup>3</sup> /1000S.	: ± 6.0

---

STARTING FUEL DELIVERY

Rated speed rpm	: 100
rack travel mm	: 21.00
Tolerance mm	: ± 0.50
Del. quantity	
cm <sup>3</sup> /1000 strokes	: 165.0
Tolerance	
cm <sup>3</sup> /1000 strokes	: ± 15.0
Check tolerance	
cm <sup>3</sup> /1000S.	: ± 19.0

---

LOW IDLE

Rated speed rpm	: 300
rack travel mm	: 4.20
Tolerance mm	: ± 0.20
Del. quantity	
cm <sup>3</sup> /1000 strokes	: 25.0
Tolerance	
cm <sup>3</sup> /1000 strokes	: ± 3.0
Check tolerance	
cm <sup>3</sup> /1000S.	: ± 6.0
Spreed	
Tolerance	
cm <sup>3</sup> /1000 strokes	: 5.0
Check tolerance	
cm <sup>3</sup> /1000S.	: 9.0

BOSCH INJ. PUMP TEST SPECIFICATIONS

Note remarks

Refer to Service Info for test and adjustment instructions.  
See microcard(s) W400/...

Edition : 12.01.95  
Test oil : ISO 4113  
Combination No. : 0402646658  
Injection pump  
Pump designation : PE6P130A720RS7371  
EP type number : 0412636837  
Governor  
Governor design. : RQV250...900PA1215  
Governor no. : 0421814139  
Cust. part No. : 3825482  
: -P01 11.01.95

Customer-spec. information

Customer : PENTA  
Motor : TAMD 163 A  
Power KW : 405.0

TEST BENCH REQUIREMENTS

Test oil inlet  
temp. °C : 40  
Tolerance °C : ± 2.0  
Overflow valve : 1457413010  
Inlet press. bar : 1.5  
Tolerance bar : ± 0.1  
Test nozzle holder  
assembly : 4688901105  
Opening pressure  
bar : 208.5  
Tolerance bar : ± 1.5  
Test lines : 1680750089  
Outside diameter : 8.0

H12

x inside diameter : 3.0  
x length mm : 600

REMARKS

(A) INJECTION PUMP SETTING VALUES  
Set equal delivery quant.  
per values \_\_\_\_\_

BEGINNING OF DELIVERY

Test pressure bar : 31.0  
Tolerance bar : ± 1.0  
Prestroke mm : 4.35  
Tolerance mm : ± 0.05  
test only : ± 0.10  
Rack travel in mm : 7.80  
Tolerance mm : ± 0.50  
Firing order : 1- 5- 3- 6- 2-  
: 4  
Phasing : 0-60-120-180-240  
: -300  
Tolerance : ± 0.30  
Check  
tolerance °NW : ± 0.50

BEGINNING OF DELIVERY DIFFERENCE

Time to cyl. no. : 1

BASIC SETTING

Rated speed rpm : 900  
Rack travel in mm : 13.20  
Tolerance mm : ± 0.05  
Del. quantity  
cm<sup>3</sup>/1000 strokes : 379.0

Tolerance  
cm<sup>3</sup>/1000 strokes : + 1.5

---

Check tolerance  
cm<sup>3</sup>/1000S. : + 5.0

---

Spreed  
Tolerance  
cm<sup>3</sup>/1000 strokes : 7.0

---

Check tolerance  
cm<sup>3</sup>/1000S. : 11.0

---

Del. quantity  
cm<sup>3</sup>/1000 strokes : 22.0  
Tolerance  
cm<sup>3</sup>/1000 strokes : + 3.0  
Check tolerance  
cm<sup>3</sup>/1000S. : + 6.0  
Spreed  
Tolerance  
cm<sup>3</sup>/1000 strokes : 7.0  
Check tolerance  
cm<sup>3</sup>/1000S. : 11.0

(B) SETTING OF INJECTION PUMP  
WITH GOVERNOR

GUIDE SLEEVE TRAVEL

Rated speed rpm : 250  
guide sleeve  
travel mm : 1.12  
Tolerance mm : + 0.25

Rated speed rpm : 959  
guide sleeve  
travel mm : 8.22  
Tolerance mm : + 0.25

Rated speed rpm : 315  
guide sleeve  
travel mm : 1.98  
Tolerance mm : + 0.25

Rated speed rpm : 365  
guide sleeve  
travel mm : 2.47  
Tolerance mm : + 0.25

Rated speed rpm : 650  
guide sleeve  
travel mm : 4.40  
Tolerance mm : + 0.25

Rated speed rpm : 1160  
guide sleeve  
travel mm : 11.50

Tolerance mm : + 0.50

GUIDE SLEEVE POSITION

control lever  
position degree : - 1  
Rated speed rpm : 1030

Rack travel in mm : 11.00  
Tolerance mm : + 2.00

FULL LOAD DELIVERY AT FULL LOAD STOP

Rated speed rpm : 900  
Aneroid pressure  
hPa : 1500  
Del. quantity  
cm<sup>3</sup>/1000 strokes : 379.0  
Tolerance  
cm<sup>3</sup>/1000 strokes : + 1.5  
Check tolerance  
cm<sup>3</sup>/1000S. : + 5.0  
Spreed  
Tolerance  
cm<sup>3</sup>/1000 strokes : 7.0  
Check tolerance  
cm<sup>3</sup>/1000S. : 11.0

RATED SPEED

control lever  
position degree : 64.0  
tolerance degree : + 4.0

control lever  
position degree : 119.0  
tolerance degree : + 4.0

rack travel mm : 12.20  
Rated speed rpm : 945  
Tolerance 1/min : + 5

rack travel mm : 4.00  
Rated speed rpm : 1030  
Tolerance 1/min : + 15

rack travel mm : 0.50  
Tolerance mm : + 0.50  
Rated speed rpm : 1120

LOW IDLE

control lever  
position degree : 73.0  
tolerance degree : ± 4.0

control lever  
position degree : 17.0  
tolerance degree : ± 4.0

Testing:

Rated speed rpm : 250  
rack travel mm : 6.70  
Tolerance mm : ± 0.20

Rated speed rpm : 150  
CRT mm min. : > 8.30

---

CONTINUOUS-ACTION CONTROL

Rated speed rpm : 350

---

TORQUE CONTROL

Rated speed rpm : 700  
rack travel mm : 13.20  
Tolerance mm : ± 0.05

---

ANEROID/ALTITUDE  
COMPENSATOR TEST

SETTING

Rated speed rpm : 500  
Pressure hPa : 1500  
rack travel mm : 13.20  
Tolerance mm : ± 0.05

MEASUREMENT

Pressure hPa : -  
Rated speed rpm : 500  
rack travel mm : 7.80  
Tolerance mm : ± 0.10

Rated speed rpm : 500

Pressure hPa : 900  
rack travel mm : 6.10  
Tolerance mm : ± 0.15

Pressure hPa : 170  
rack travel mm : 0.25  
Tolerance mm : ± 0.05

---

FUEL DELIVERY CHARACTERISTICS

Aneroid pressure  
hPa : 1500  
Rated speed rpm : 700  
Del. quantity  
cm<sup>3</sup>/1000 strokes : 406.0  
Tolerance  
cm<sup>3</sup>/1000 strokes : ± 3.0  
Check tolerance  
cm<sup>3</sup>/1000S. : ± 6.0

Aneroid pressure  
hPa : -  
Rated speed rpm : 700  
Del. quantity  
cm<sup>3</sup>/1000 strokes : 196.0  
Tolerance  
cm<sup>3</sup>/1000 strokes : ± 1.5  
Check tolerance  
cm<sup>3</sup>/1000S. : ± 5.0

---

BREAKAWAY

Rack travel in mm : 12.20  
Rated speed rpm : 945  
Tolerance 1/min : ± 5

---

LOW IDLE

Del. quantity  
cm<sup>3</sup>/1000 strokes : 22.0  
Tolerance  
cm<sup>3</sup>/1000 strokes : ± 3.0  
Check tolerance  
cm<sup>3</sup>/1000S. : ± 6.0  
Speed  
Tolerance  
cm<sup>3</sup>/1000 strokes : 7.0  
Check tolerance  
cm<sup>3</sup>/1000S. : 11.0

BOSCH INJ. PUMP TEST SPECIFICATIONS

Note remarks

Refer to Service Info for test and adjustment instructions.  
See microcard(s) W400/...

Edition : 13.01.95  
Test oil : ISO 4113  
  
Combination No. : 0402646872Y  
  
Injection pump  
Pump designation : PE6P120A720RS7126  
: -10Y  
EP type number : 0412626930  
  
Governor  
Governor design. : RQV200...1000PA725  
: -6  
Governor no. : 0421813755

Cust. part No. :

Customer-spec. information  
Customer : SCANIA  
Motor : DSC11 30

TEST BENCH REQUIREMENTS

Test oil inlet  
temp. °C : 40  
Tolerance °C : ± 2.0  
  
Overflow valve : 1417413025  
  
Inlet press. bar : 1.5  
  
Test nozzle holder  
assembly : 1688901019  
  
Opening pressure  
bar : 208.5  
Tolerance bar : ± 1.5  
  
Test lines : 1680750015  
  
Outside diameter : 6.0

x inside diameter : 3.0  
x length mm : 600

REMARKS

Check and set without ROBO diaphragm

(A) INJECTION PUMP SETTING VALUES  
Set equal delivery quant.  
per values \_\_\_\_\_

BEGINNING OF DELIVERY

Test pressure bar : 31.0  
Tolerance bar : ± 1.0

Prestroke mm : 5.05  
Tolerance mm : ± 0.05

test only : ± 0.10

Rack travel in mm : 10.50  
Tolerance mm : ± 1.50

Firing order : 1- 5- 3- 6- 2-  
: 4

Phasing : 0-60-120-180-240  
: -300  
Tolerance : ± 0.30  
Check  
tolerance °NW : ± 0.75

BEGINNING OF DELIVERY DIFFERENCE

Time to cyl. no. : 1

BASIC SETTING

Rated speed rpm : 700

Rack travel in mm : 14.45  
Tolerance mm : ± 0.05

Del. quantity  
cm<sup>3</sup>/1000 strokes : 246.0

---

Tolerance  
cm<sup>3</sup>/1000 strokes : ± 1.0

---

Check tolerance  
cm<sup>3</sup>/1000S. : ± 4.0

---

Spreed  
Tolerance  
cm<sup>3</sup>/1000 strokes : 6.0

---

Check tolerance  
cm<sup>3</sup>/1000S. : 9.0

2nd speed rpm : 225

Rack travel in mm : 4.80  
Tolerance mm : ± 0.30

Del. quantity  
cm<sup>3</sup>/1000 strokes : 20.0  
Tolerance  
cm<sup>3</sup>/1000 strokes : ± 2.0  
Check tolerance  
cm<sup>3</sup>/1000S. : ± 4.0

Spreed  
Tolerance  
cm<sup>3</sup>/1000 strokes : 3.0  
Check tolerance  
cm<sup>3</sup>/1000S. : 6.0

(B) SETTING OF INJECTION PUMP  
WITH GOVERNOR

GUIDE SLEEVE POSITION

control lever  
position degree : - 1  
Rated speed rpm : 1170

Rack travel in mm : 9.00  
Tolerance mm : ± 3.00

FULL LOAD DELIVERY AT FULL LOAD STOP

Rated speed rpm : 700  
Aneroid pressure  
hPa : -

Del. quantity  
cm<sup>3</sup>/1000 strokes : 246.0  
Tolerance  
cm<sup>3</sup>/1000 strokes : ± 1.0  
Check tolerance  
cm<sup>3</sup>/1000S. : ± 4.0

Spreed  
Tolerance  
cm<sup>3</sup>/1000 strokes : 6.0  
Check tolerance  
cm<sup>3</sup>/1000S. : 9.0

RATED SPEED

control lever  
position degree : 62.0  
tolerance degree : ± 4.0

control lever  
position degree : 117.0  
tolerance degree : ± 4.0

rack travel mm : 13.40  
Rated speed rpm : 1045  
Tolerance 1/min : ± 5

rack travel mm : 4.00  
Rated speed rpm : 1160  
Tolerance 1/min : ± 15

rack travel mm : 0.50  
Tolerance mm : ± 0.50  
Rated speed rpm : 1300

LOW IDLE

control lever  
position degree : 65.0  
tolerance degree : ± 4.0

control lever  
position degree : 8.0  
tolerance degree : ± 4.0

Testing:

Rated speed rpm : 225  
rack travel mm : 4.80  
Tolerance mm : ± 0.10

Rated speed rpm : 100

CRT mm min. : > 6.30

CONTINUOUS-ACTION CONTROL

Rated speed rpm : 275

TORQUE CONTROL

Rated speed rpm : 1000  
rack travel mm : 14.45  
Tolerance mm : ± 0.05

---

ANEROID/ALTITUDE  
COMPENSATOR TEST

SETTING

Rated speed rpm : 500  
Pressure hPa : 900  
rack travel mm : 14.45  
Tolerance mm : ± 0.05

MEASUREMENT

Pressure hPa : -  
Rated speed rpm : 500  
rack travel mm : 10.50  
Tolerance mm : ± 0.20

Rated speed rpm : 500

Pressure hPa : 320  
rack travel mm : 11.30  
Tolerance mm : ± 0.15

Pressure hPa : 470  
rack travel mm : 12.20  
Tolerance mm : ± 0.05

---

FUEL DELIVERY CHARACTERISTICS

Aneroid pressure  
hPa : -  
Rated speed rpm : 1000  
Del. quantity  
cm<sup>3</sup>/1000 strokes : 235.0  
Tolerance  
cm<sup>3</sup>/1000 strokes : ± 4.0  
Check tolerance  
cm<sup>3</sup>/1000S. : ± 6.0

Aneroid pressure  
hPa : -  
Rated speed rpm : 500  
Del. quantity  
cm<sup>3</sup>/1000 strokes : 144.0  
Tolerance  
cm<sup>3</sup>/1000 strokes : ± 2.0  
Check tolerance  
cm<sup>3</sup>/1000S. : ± 4.0

---

BREAKAWAY

Rack travel in mm : 13.40  
Rated speed rpm : 1045  
Tolerance 1/min : ± 5

---

STARTING FUEL DELIVERY

Rated speed rpm : 100  
rack travel mm : 10.50  
Tolerance mm : ± 0.20  
Del. quantity  
cm<sup>3</sup>/1000 strokes : 140.0  
Tolerance  
cm<sup>3</sup>/1000 strokes : ± 20.0  
Check tolerance  
cm<sup>3</sup>/1000S. : ± 24.0

---

LOW IDLE

Rated speed rpm : 225  
rack travel mm : 4.80  
Tolerance mm : ± 0.30  
Del. quantity  
cm<sup>3</sup>/1000 strokes : 20.0  
Tolerance  
cm<sup>3</sup>/1000 strokes : ± 2.0  
Check tolerance  
cm<sup>3</sup>/1000S. : ± 4.0  
Speed  
Tolerance  
cm<sup>3</sup>/1000 strokes : 3.0  
Check tolerance  
cm<sup>3</sup>/1000S. : 6.0

BOSCH INJ. PUMP TEST SPECIFICATIONS

Note remarks

Refer to Service Info for test and adjustment instructions.  
See microcard(s) W400/...

Edition : 21.12.94  
Test oil : ISO 4113

Combination No. : 0402676822

Injection pump  
Pump designation : PE6P120A32ORS7365  
EP type number : 0412626940

Governor  
Governor design. : RSV300...850P4A594  
Governor no. : 0421833460

Cust. part No. : 11031890 P02 950103

---

Customer-spec. information  
Customer : VME  
Motor : TD 122 KKE  
Power KW : 220.0

---

TEST BENCH REQUIREMENTS

Test oil inlet  
temp. °C : 40  
Tolerance °C : ± 2.0

Overflow valve : 2417413078

Inlet press. bar : 1.5  
Tolerance bar : ± 0.1

Test nozzle holder  
assembly : 1688901103

Opening pressure  
bar : 208.5  
Tolerance bar : ± 1.5

Test lines : 1680750008

Outside diameter : 6.0

x inside diameter : 2.0  
x length mm : 600

---

REMARKS

(A) INJECTION PUMP SETTING VALUES  
Set equal delivery quant.  
per values \_\_\_\_\_

---

BEGINNING OF DELIVERY

Test pressure bar : 31.0  
Tolerance bar : ± 1.0

Prestroke mm : 4.00  
Tolerance mm : ± 0.05

test only : ± 0.10

Rack travel in mm : 10.00  
Tolerance mm : ± 0.50

Firing order : 1- 5- 3- 6- 2-  
: 4

Phasing : 0-60-120-180-240  
: -300

Tolerance : ± 0.30  
Check  
tolerance °NW : ± 0.75

---

BEGINNING OF DELIVERY DIFFERENCE

Time to cyl. no. : 1

---

BASIC SETTING



Rated speed rpm : 700

---

Rack travel in mm : 9.40  
Tolerance mm : ± 0.05

---

Del. quantity  
cm<sup>3</sup>/1000 strokes : 254.0

---

Tolerance  
cm<sup>3</sup>/1000 strokes : ± 1.0

---

Check tolerance  
cm<sup>3</sup>/1000S. : ± 4.0

---

Spreed  
Tolerance  
cm<sup>3</sup>/1000 strokes : 6.0

---

Check tolerance  
cm<sup>3</sup>/1000S. : 10.0

---

Del. quantity  
cm<sup>3</sup>/1000 strokes : 45.0  
Tolerance  
cm<sup>3</sup>/1000 strokes : ± 3.0  
Check tolerance  
cm<sup>3</sup>/1000S. : ± 6.0

---

Spreed  
Tolerance  
cm<sup>3</sup>/1000 strokes : 7.0  
Check tolerance  
cm<sup>3</sup>/1000S. : 11.0

(B) SETTING OF INJECTION PUMP  
WITH GOVERNOR

---

GUIDE SLEEVE POSITION

control lever  
position degree : - 3  
Rated speed rpm : 800

Rack travel in mm : 0.50  
Tolerance mm : ± 0.20

governor spring  
pre-tension  
click setting x : 6.00

---

FULL LOAD DELIVERY AT FULL LOAD STOP

Rated speed rpm : 700  
Aneroid pressure  
hPa : 1500

Del. quantity  
cm<sup>3</sup>/1000 strokes : 254.0  
Tolerance  
cm<sup>3</sup>/1000 strokes : ± 1.0  
Check tolerance  
cm<sup>3</sup>/1000S. : ± 4.0

---

Spreed  
Tolerance  
cm<sup>3</sup>/1000 strokes : 6.0  
Check tolerance  
cm<sup>3</sup>/1000S. : 10.0

---

RATED SPEED

control lever  
position degree : 56.0  
tolerance degree : ± 4.0

control lever  
position degree : 106.0  
tolerance degree : ± 4.0

rack travel mm : 8.40  
Rated speed rpm : 870  
Tolerance 1/min : ± 5

rack travel mm : 4.00  
Rated speed rpm : 930  
Tolerance 1/min : ± 15

rack travel mm : 0.80  
Tolerance mm : ± 0.50  
Rated speed rpm : 1070

---

LOW IDLE

tolerance degree : ± 4.0  
tolerance degree : ± 4.0

Setting point w/out bumper spring

Rated speed rpm : 330

Testing:

Rated speed rpm : 330  
Tolerance mm : ± 0.20

rack travel mm : 2.00  
Tolerance 1/min : ± 30

---

TORQUE CONTROL

Rated speed rpm : 700  
rack travel mm : 8.80  
Tolerance mm : ± 0.10

---

ANEROID/ALTITUDE  
COMPENSATOR TEST

SETTING

Rated speed rpm : 500  
Pressure hPa : 1500  
rack travel mm : 9.40  
Tolerance mm :  $\pm$  0.05

MEASUREMENT

Pressure hPa : -  
Rated speed rpm : 500  
rack travel mm : 7.10  
Tolerance mm :  $\pm$  0.10

Rated speed rpm : 500

Pressure hPa : 600  
rack travel mm : 2.00  
Tolerance mm :  $\pm$  0.20

Pressure hPa : 260  
rack travel mm : 0.25  
Tolerance mm :  $\pm$  0.05

---

FUEL DELIVERY CHARACTERISTICS

Aneroid pressure  
hPa : -  
Rated speed rpm : 700  
Del. quantity  
cm<sup>3</sup>/1000 strokes : 251.0  
Tolerance  
cm<sup>3</sup>/1000 strokes :  $\pm$  1.0  
Check tolerance  
cm<sup>3</sup>/1000S. :  $\pm$  4.0  
Speed  
Tolerance  
cm<sup>3</sup>/1000 strokes : 9.0  
Check tolerance  
cm<sup>3</sup>/1000S. : 13.0

Aneroid pressure  
hPa : -  
Rated speed rpm : 700  
Del. quantity  
cm<sup>3</sup>/1000 strokes : 196.0  
Tolerance  
cm<sup>3</sup>/1000 strokes :  $\pm$  1.0  
Check tolerance  
cm<sup>3</sup>/1000S. :  $\pm$  4.0

---

BREAKAWAY

Rack travel in mm : 8.40  
Rated speed rpm : 870  
Tolerance 1/min :  $\pm$  5

---

STARTING FUEL DELIVERY

Rated speed rpm : 100  
rack travel mm : 20.50  
Tolerance mm :  $\pm$  0.50  
Del. quantity  
cm<sup>3</sup>/1000 strokes : 155.0  
Tolerance  
cm<sup>3</sup>/1000 strokes :  $\pm$  15.0  
Check tolerance  
cm<sup>3</sup>/1000S. :  $\pm$  19.0

---

LOW IDLE

Del. quantity  
cm<sup>3</sup>/1000 strokes : 45.0  
Tolerance  
cm<sup>3</sup>/1000 strokes :  $\pm$  3.0  
Check tolerance  
cm<sup>3</sup>/1000S. :  $\pm$  6.0  
Speed  
Tolerance  
cm<sup>3</sup>/1000 strokes : 7.0  
Check tolerance  
cm<sup>3</sup>/1000S. : 11.0

# BOSCH INJ. PUMP TEST SPECIFICATIONS

## Note remarks

Refer to Service Info for test and adjustment instructions.  
See microcard(s) W400/...

Edition : 13.01.95  
Test oil : ISO 4113  
Combination No. : 0402735811  
Injection pump  
Pump designation : PES5P120A720/3LS7348  
EP type number : 0412725818  
Governor  
Governor design. : RQ325/1000PA1106-2  
Governor no. : 0421801750  
Cust. part No. : 3-7392

---

Customer-spec. information  
Customer : MAN  
Motor : D2865LUH06  
Power kW : 191.0

---

## TEST BENCH REQUIREMENTS

Test oil inlet  
temp. °C : 40  
Tolerance °C : ± 2.0  
Overflow valve : 1417413025  
Inlet press. bar : 1.5  
Tolerance bar : ± 0.1  
Test nozzle holder  
assembly : 1688901105  
Opening pressure  
bar : 208.5  
Tolerance bar : ± 1.5  
Lube oil : 1409918004  
Test lines : 1680750089

Outside diameter : 8.0  
x inside diameter : 3.0  
x length mm : 600

---

## REMARKS

(A) INJECTION PUMP SETTING VALUES  
Set equal delivery quant.  
per values \_\_\_\_\_

---

## BEGINNING OF DELIVERY

Test pressure bar : 31.0  
Tolerance bar : ± 1.0  
Prestroke mm : 5.15  
Tolerance mm : ± 0.05  
test only : ± 0.10  
Rack travel in mm : 12.80  
Tolerance mm : ± 0.50  
Firing order : 1- 3- 5- 4- 2  
Phasing : 0-72-144-216-288  
Tolerance : ± 0.30  
Check  
tolerance °NW : ± 0.75

---

## BEGINNING OF DELIVERY DIFFERENCE

Time to cyl. no. : 5  
S.o.d. blocking  
Barrel no. : 5

---

## BASIC SETTING

Rated speed rpm : 750  
Rack travel in mm : 12.10  
Tolerance mm : ± 0.05

---

Del. quantity  
cm<sup>3</sup>/1000 strokes : 261.0

---

Tolerance  
cm<sup>3</sup>/1000 strokes : ± 1.0

---

Check tolerance  
cm<sup>3</sup>/1000S. : ± 4.0

---

Spreed  
Tolerance  
cm<sup>3</sup>/1000 strokes : 8.0

---

Check tolerance  
cm<sup>3</sup>/1000S. : 12.0

2nd speed rpm : 325

Rack travel in mm : 4.90  
Tolerance mm : ± 0.20

Del. quantity  
cm<sup>3</sup>/1000 strokes : 43.0  
Tolerance  
cm<sup>3</sup>/1000 strokes : ± 3.0  
Check tolerance  
cm<sup>3</sup>/1000S. : ± 6.0

Spreed  
Tolerance  
cm<sup>3</sup>/1000 strokes : 8.0  
Check tolerance  
cm<sup>3</sup>/1000S. : 12.0

(B) SETTING OF INJECTION PUMP  
WITH GOVERNOR

GUIDE SLEEVE TRAVEL

Rated speed rpm : 325  
guide sleeve  
travel mm : 2.50  
Tolerance mm : ± 0.10

Rated speed rpm : 1059  
guide sleeve  
travel mm : 7.34  
Tolerance mm : ± 0.10

Rated speed rpm : 1000  
guide sleeve  
travel mm : 7.00  
Tolerance mm : ± 0.10

Rated speed rpm : 401  
guide sleeve  
travel mm : 4.29  
Tolerance mm : ± 0.10

Rated speed rpm : 530

guide sleeve  
travel mm : 7.00  
Tolerance mm : ± 0.10

Rated speed rpm : 1210  
guide sleeve  
travel mm : 11.50  
Tolerance mm : ± 0.50

GUIDE SLEEVE POSITION

Rated speed rpm : 700

Rack travel in mm : 15.50  
Tolerance mm : ± 0.80

FULL LOAD DELIVERY AT FULL LOAD STOP

Rated speed rpm : 750  
Aneroid pressure  
hPa : 2000

Del. quantity  
cm<sup>3</sup>/1000 strokes : 261.0  
Tolerance  
cm<sup>3</sup>/1000 strokes : ± 1.0  
Check tolerance  
cm<sup>3</sup>/1000S. : ± 4.0

Spreed  
Tolerance  
cm<sup>3</sup>/1000 strokes : 8.0  
Check tolerance  
cm<sup>3</sup>/1000S. : 12.0

RATED SPEED

control lever  
position degree : 100.0  
tolerance degree : ± 4.0

rack travel mm : 11.10  
Rated speed rpm : 1053  
Tolerance 1/min : ± 8

rack travel mm : 4.00  
Rated speed rpm : 1130  
Tolerance 1/min : ± 15

rack travel mm : 0.50  
Tolerance mm : ± 0.50  
Rated speed rpm : 1250

LOW IDLE

control lever  
position degree : 73.0  
tolerance degree : ± 4.0

Testing:

Rated speed rpm : 325  
rack travel mm : 4.90  
Tolerance mm : ± 0.10

rack travel mm : 2.00  
Rated speed rpm : 390  
Tolerance 1/min : ± 20

Rated speed rpm : 200  
CRT mm min. : > 8.00

---

TORQUE CONTROL

Rated speed rpm : 750  
rack travel mm : 12.10  
Tolerance mm : ± 0.05

Rated speed rpm : 1000  
rack travel mm : 12.10  
Tolerance mm : ± 0.10

Rated speed rpm : 550  
rack travel mm : 10.80  
Tolerance mm : ± 0.10

---

ANEROID/ALTITUDE  
COMPENSATOR TEST

SETTING

Rated speed rpm : 500  
Pressure hPa : 750  
rack travel mm : 10.80  
Tolerance mm : ± 0.10

MEASUREMENT

Rated speed rpm : 500  
Pressure hPa : 250  
rack travel mm : 8.75  
Tolerance mm : ± 0.05

Pressure hPa : 2000  
rack travel mm : 12.10  
Tolerance mm : ± 0.05

Pressure hPa : 1000  
rack travel mm : 11.05

Tolerance mm : ± 0.10  
Pressure hPa : 500  
rack travel mm : 10.40  
Tolerance mm : ± 0.15

---

FUEL DELIVERY CHARACTERISTICS

Aneroid pressure  
hPa : 2000  
Rated speed rpm : 1000  
Del. quantity  
cm<sup>3</sup>/1000 strokes : 241.0

Tolerance  
cm<sup>3</sup>/1000 strokes : ± 3.0  
Check tolerance  
cm<sup>3</sup>/1000S. : ± 6.0

Spread  
Tolerance  
cm<sup>3</sup>/1000 strokes : 8.0  
Check tolerance  
cm<sup>3</sup>/1000S. : 12.0

Aneroid pressure  
hPa : 750  
Rated speed rpm : 550  
Del. quantity  
cm<sup>3</sup>/1000 strokes : 235.0

Tolerance  
cm<sup>3</sup>/1000 strokes : ± 2.0  
Check tolerance  
cm<sup>3</sup>/1000S. : ± 5.0

Aneroid pressure  
hPa : -  
Rated speed rpm : 500  
Del. quantity  
cm<sup>3</sup>/1000 strokes : 159.0

Tolerance  
cm<sup>3</sup>/1000 strokes : ± 1.0  
Check tolerance  
cm<sup>3</sup>/1000S. : ± 4.0

---

BREAKAWAY

Rack travel in mm : 11.10  
Rated speed rpm : 1053  
Tolerance 1/min : ± 8

---

STARTING FUEL DELIVERY

Rated speed rpm : 100  
rack travel mm : 8.35  
Tolerance mm : ± 0.20

Del. quantity  
cm<sup>3</sup>/1000 strokes : 80.0  
Tolerance  
cm<sup>3</sup>/1000 strokes : ± 10.0  
Check tolerance  
cm<sup>3</sup>/1000S. : ± 14.0

---

LOW IDLE

Rated speed rpm : 325  
rack travel mm : 4.90  
Tolerance mm : ± 0.20  
Del. quantity  
cm<sup>3</sup>/1000 strokes : 43.0  
Tolerance  
cm<sup>3</sup>/1000 strokes : ± 3.0  
Check tolerance  
cm<sup>3</sup>/1000S. : ± 6.0  
Spreed  
Tolerance  
cm<sup>3</sup>/1000 strokes : 8.0  
Check tolerance  
cm<sup>3</sup>/1000S. : 12.0

BOSCH INJ. PUMP TEST SPECIFICATIONS

Note remarks

Refer to Service Info for test and adjustment instructions.  
See microcard(s) W400/...

Edition : 12.12.94  
Test oil : ISO 4113

Combination No. : 0402736803

Injection pump  
Pump designation : PES6P110A12ORS7187  
EP type number : 0412716801

Governor  
Governor design. : RQV350...1100PA924  
: -3K

Governer no. : 0421815228

Cust. part No. :

Customer-spec. information  
Customer : CDC  
Motor : 6CTA

TEST BENCH REQUIREMENTS

Test oil inlet  
temp. °C : 40  
Tolerance °C : ± 2.0

Overflow valve : 2417413047

Overflow quantity  
min. L/h : 165  
Tolerance l/h : ± 5.0

Test nozzle holde  
assembly : 1688901101

Opening pressure  
bar : 208.5  
Tolerance bar : ± 1.5

Test lines : 1680750008

Outside diameter : 6.0

x inside diameter : 2.0  
x length mm : 600

REMARKS

(A) INJECTION PUMP SETTING VALUES  
Set equal delivery quant.  
per values \_\_\_\_\_

BEGINNING OF DELIVERY

Test pressure bar : 31.0  
Tolerance bar : ± 1.0

Prestroke mm : 4.40  
Tolerance mm : ± 0.05

test only : ± 0.10

Rack travel in mm : 10.50  
Tolerance mm : ± 1.50

Firing order : 1- 5- 3- 6- 2-  
: 4

Phasing : 0-60-120-180-240  
: -300

Tolerance : ± 0.30

Check  
tolerance °NW : ± 0.50

BEGINNING OF DELIVERY DIFFERENCE

Tolerance : ± 0.10

Check  
tolerance °NW : ± 0.23

BASIC SETTING

Rated speed rpm : 1100

Rack travel in mm : 10.45  
Tolerance mm : ± 0.05

Del. quantity  
cm<sup>3</sup>/1000 strokes : 138.0

Tolerance  
cm<sup>3</sup>/1000 strokes : ± 1.0

---

Check tolerance  
cm<sup>3</sup>/1000S. : ± 4.0

---

Spreed  
Tolerance  
cm<sup>3</sup>/1000 strokes : 5.0

---

Check tolerance  
cm<sup>3</sup>/1000S. : 9.0

### (B) SETTING OF INJECTION PUMP WITH GOVERNOR

---

#### GUIDE SLEEVE POSITION

control lever  
position degree : - 1  
Rated speed rpm : 1230

Rack travel in mm : 9.00  
Tolerance mm : ± 3.00

---

#### FULL LOAD DELIVERY AT FULL LOAD STOP

Rated speed rpm : 1100  
Aneroid pressure  
hPa : 900  
Del. quantity  
cm<sup>3</sup>/1000 strokes : 138.0  
Tolerance  
cm<sup>3</sup>/1000 strokes : ± 1.0  
Check tolerance  
cm<sup>3</sup>/1000S. : ± 4.0  
Spreed  
Tolerance  
cm<sup>3</sup>/1000 strokes : 5.0  
Check tolerance  
cm<sup>3</sup>/1000S. : 9.0

---

#### RATED SPEED

control lever  
position degree : 60.0  
tolerance degree : ± 4.0

rack travel mm : 9.40  
Rated speed rpm : 1145  
Tolerance 1/min : ± 5

rack travel mm : 4.00

Rated speed rpm : 1215  
Tolerance 1/min : ± 15

rack travel mm : 0.50  
Tolerance mm : ± 0.50  
Rated speed rpm : 1350

---

#### LOW IDLE

control lever  
position degree : 15.0  
tolerance degree : ± 4.0

#### Testing:

Rated speed rpm : 350  
rack travel mm : 4.70  
Tolerance mm : ± 0.10

---

#### CONTINUOUS-ACTION CONTROL

Rated speed rpm : 400

---

#### TORQUE CONTROL

Rated speed rpm : 1100  
rack travel mm : 10.45  
Tolerance mm : ± 0.05

Rated speed rpm : 900  
rack travel mm : 10.20  
Tolerance mm : ± 0.10

Rated speed rpm : 650  
rack travel mm : 4.95  
Tolerance mm : ± 4.95

---

#### ANEROID/ALTITUDE COMPENSATOR TEST

#### SETTING

Rated speed rpm : 1100  
Pressure hPa : 900  
rack travel mm : 10.45  
Tolerance mm : ± 0.05

#### MEASUREMENT

Pressure hPa : -  
Rated speed rpm : 1100  
rack travel mm : 6.90  
Tolerance mm : ± 0.20



Rated speed rpm : 1100  
Pressure hPa : 330  
rack travel mm : 8.60  
Tolerance mm :  $\pm$  0.20  
  
Pressure hPa : 200  
rack travel mm : 7.45  
Tolerance mm :  $\pm$  0.05

---

FUEL DELIVERY CHARACTERISTICS

Aneroid pressure  
hPa : -  
Rated speed rpm : 500  
Del. quantity  
cm<sup>3</sup>/1000 strokes : 88.0  
Tolerance  
cm<sup>3</sup>/1000 strokes :  $\pm$  2.0  
Check tolerance  
cm<sup>3</sup>/1000S. :  $\pm$  4.0

---

BREAKAWAY

Rack travel in mm : 9.40  
Rated speed rpm : 1145  
Tolerance 1/min :  $\pm$  5

# BOSCH INJ. PUMP TEST SPECIFICATIONS

## Note remarks

Refer to Service Info for test and adjustment instructions.  
See microcard(s) W400/...

Edition : 12.12.94  
Test oil : ISO 4113

Combination No. : 0402736805

Injection pump  
Pump designation : PES6P120A120RS7206  
EP type number : 0412726835

Governor  
Governor design. : RQV350...1100PA924  
: -5K  
Governor no. : 0421815250

Cust. part No. : 3281182

---

Customer-spec. information  
Customer : CUMMINS  
Motor : 6CTAA  
Power KW : 202.0

---

## TEST BENCH REQUIREMENTS

Test oil inlet  
temp. °C : 40  
Tolerance °C : ± 2.0

Overflow valve : 1417413047

Overflow quantity  
min. l/h : 165  
Tolerance l/h : ± 5.0

Test nozzle holder  
assembly : 1688901101

Opening pressure  
bar : 208.5  
Tolerance bar : ± 1.5

Test lines : 1680750008

Outside diameter : 6.0

x inside diameter : 2.0  
x length mm : 600

---

## REMARKS

(A) INJECTION PUMP SETTING VALUES  
Set equal delivery quant.  
per values \_\_\_\_\_

---

## BEGINNING OF DELIVERY

Test pressure bar : 31.0  
Tolerance bar : ± 1.0

Prestroke mm : 3.55  
Tolerance mm : ± 0.05

test only : ± 0.10

Rack travel in mm : 10.50  
Tolerance mm : ± 1.50

Firing order : 1- 5- 3- 6- 2-  
: 4

Phasing : 0-60-120-180-240  
: -300  
Tolerance : ± 0.30  
Check  
tolerance °NW : ± 0.50

---

## BEGINNING OF DELIVERY DIFFERENCE

S.o.d. blocking  
Barrel no. : 1  
Tolerance : ± 0.10  
Check  
tolerance °NW : ± 0.23

---

## BASIC SETTING

Rated speed rpm : 1100

---

Rack travel in mm : 12.15  
Tolerance mm : ± 0.05

---

Del. quantity  
cm<sup>3</sup>/1000 strokes : 159.0

---

---

Tolerance  
cm<sup>3</sup>/1000 strokes : ± 1.0

---

Check tolerance  
cm<sup>3</sup>/1000S. : ± 4.0

---

Spreed  
Tolerance  
cm<sup>3</sup>/1000 strokes : 5.0

---

Check tolerance  
cm<sup>3</sup>/1000S. : 9.0

(B) SETTING OF INJECTION PUMP  
WITH GOVERNOR

---

GUIDE SLEEVE POSITION

control lever  
position degree : - 1  
Rated speed rpm : 1420

Rack travel in mm : 9.00  
Tolerance mm : ± 3.00

---

FULL LOAD DELIVERY AT FULL LOAD STOP

Rated speed rpm : 1100  
Aneroid pressure  
hPa : 1200  
Del. quantity  
cm<sup>3</sup>/1000 strokes : 159.0  
Tolerance  
cm<sup>3</sup>/1000 strokes : ± 1.0  
Check tolerance  
cm<sup>3</sup>/1000S. : ± 4.0  
Spreed  
Tolerance  
cm<sup>3</sup>/1000 strokes : 5.0  
Check tolerance  
cm<sup>3</sup>/1000S. : 9.0

---

RATED SPEED

control lever  
position degree : 115.0  
tolerance degree : ± 4.0

rack travel mm : 11.10  
Rated speed rpm : 1145  
Tolerance 1/min : ± 5

rack travel mm : 4.00  
Rated speed rpm : 1275  
Tolerance 1/min : ± 15

rack travel mm : 0.50  
Tolerance mm : ± 0.50  
Rated speed rpm : 1350

---

LOW IDLE

control lever  
position degree : 75.0  
tolerance degree : ± 4.0

Testing:

Rated speed rpm : 350  
rack travel mm : 5.30  
Tolerance mm : ± 0.10

Rated speed rpm : 250

CRT mm min. : > 6.80

---

CONTINUOUS-ACTION CONTROL

Rated speed rpm : 450

---

TORQUE CONTROL

Rated speed rpm : 1100  
rack travel mm : 12.15  
Tolerance mm : ± 0.05

Rated speed rpm : 600  
rack travel mm : 11.20  
Tolerance mm : ± 0.10

Rated speed rpm : 800  
rack travel mm : 11.80  
Tolerance mm : ± 0.10

---

ANEROID/ALTITUDE  
COMPENSATOR TEST

SETTING

Rated speed rpm : 1100  
Pressure hPa : 1200  
rack travel mm : 12.15  
Tolerance mm : ± 0.05

---

MEASUREMENT

Pressure hPa : -  
Rated speed rpm : 1100  
rack travel mm : 8.20  
Tolerance mm : ± 0.10

Rated speed rpm : 1100

Pressure hPa : 300  
rack travel mm : 8.90  
Tolerance mm : ± 0.20

Pressure hPa : 600  
rack travel mm : 11.20  
Tolerance mm : ± 0.10

---

#### START CUT-OUT

Rated speed rpm : > 100  
Check  
speed 1/min : > 80  
Rated speed rpm : < 270  
Check  
speed 1/min : < 290

---

#### FUEL DELIVERY CHARACTERISTICS

Aneroid pressure  
hPa : 1200  
Rated speed rpm : 600  
Del. quantity  
cm<sup>3</sup>/1000 strokes : 177.0  
Tolerance  
cm<sup>3</sup>/1000 strokes : ± 3.0  
Check tolerance  
cm<sup>3</sup>/1000S. : ± 6.0  
Spreed  
Tolerance  
cm<sup>3</sup>/1000 strokes : 8.0  
Check tolerance  
cm<sup>3</sup>/1000S. : 12.0

Aneroid pressure  
hPa : -  
Rated speed rpm : 500  
Del. quantity  
cm<sup>3</sup>/1000 strokes : 107.0  
Tolerance  
cm<sup>3</sup>/1000 strokes : ± 2.0  
Check tolerance  
cm<sup>3</sup>/1000S. : ± 4.0

---

#### BREAKAWAY

Rack travel in mm : 11.10  
Rated speed rpm : 1145  
Tolerance 1/min : ± 5

---

#### STARTING FUEL DELIVERY

Rated speed rpm : 100  
Del. quantity  
cm<sup>3</sup>/1000 strokes : 245.0  
Tolerance  
cm<sup>3</sup>/1000 strokes : ± 10.0  
Check tolerance  
cm<sup>3</sup>/1000S. : ± 14.0

BOSCH INJ. PUMP TEST SPECIFICATIONS

Note remarks

Refer to Service Info for test and adjustment instructions.  
See microcard(s) W400/...

Edition : 12.12.94  
Test oil : ISO 4113  
  
Combination No. : 0402736810  
  
Injection pump  
Pump designation : PES6P110A120RS7213  
EP type number : 0412716804  
  
Governor  
Governor design. : RQV400...1250PA964  
: -2K  
Governor no. : 0421815254  
  
Cust. part No. : 3921777

Customer-spec. information  
Customer : CDC  
Motor : 6BTA-A  
Power KW : 141.0

TEST BENCH REQUIREMENTS

Test oil inlet  
temp. °C : 40  
Tolerance °C : ± 2.0  
  
Overflow valve : 1417413047  
  
Inlet press. bar : 1.5  
  
Overflow quantity  
min. l/h : 120  
Tolerance l/h : ± 5.0  
  
Test nozzle holder  
assembly : 1688901101  
  
Opening pressure  
bar : 208.5  
Tolerance bar : ± 1.5

Test lines : 1680750008  
Outside diameter : 6.0  
x inside diameter : 2.0  
x length mm : 600

REMARKS

(A) INJECTION PUMP SETTING VALUES  
Set equal delivery quant.  
per values \_\_\_\_\_

BEGINNING OF DELIVERY

Test pressure bar : 31.0  
Tolerance bar : ± 1.0  
  
Prestroke mm : 4.40  
Tolerance mm : ± 0.05  
  
test only : ± 0.10  
  
Rack travel in mm : 10.50  
Tolerance mm : ± 1.50  
  
Firing order : 1- 5- 3- 6- 2-  
: 4  
  
Phasing : 0-60-120-180-240  
: -300  
Tolerance : ± 0.30  
Check  
tolerance °NW : ± 0.50

BEGINNING OF DELIVERY DIFFERENCE

Time to cyl. no. : 1  
S.o.d. blocking  
Barrel no. : 1  
Tolerance : ± 0.10  
Check  
tolerance °NW : ± 0.23

---

BASIC SETTING

Rated speed rpm : 1250

---

Rack travel in mm : 14.85  
Tolerance mm :  $\pm$  0.05

---

Del. quantity  
cm<sup>3</sup>/1000 strokes : 161.0

---

Tolerance  
cm<sup>3</sup>/1000 strokes :  $\pm$  1.0

---

Check tolerance  
cm<sup>3</sup>/1000S. :  $\pm$  4.0

---

Spreed  
Tolerance  
cm<sup>3</sup>/1000 strokes : 5.0

---

Check tolerance  
cm<sup>3</sup>/1000S. : 9.0

---

Del. quantity  
cm<sup>3</sup>/1000 strokes : 36.0

Tolerance  
cm<sup>3</sup>/1000 strokes :  $\pm$  3.0

Check tolerance  
cm<sup>3</sup>/1000S. :  $\pm$  5.0

Spreed  
Tolerance  
cm<sup>3</sup>/1000 strokes : 8.0

Check tolerance  
cm<sup>3</sup>/1000S. : 12.0

(B) SETTING OF INJECTION PUMP  
WITH GOVERNOR

---

GUIDE SLEEVE POSITION

Rated speed rpm : 1450

Rack travel in mm : 13.80  
Tolerance mm :  $\pm$  1.30

---

FULL LOAD DELIVERY AT FULL LOAD STOP

Rated speed rpm : 1250

Aneroid pressure  
hPa : 1200

Del. quantity  
cm<sup>3</sup>/1000 strokes : 161.0

Tolerance  
cm<sup>3</sup>/1000 strokes :  $\pm$  1.0

Check tolerance  
cm<sup>3</sup>/1000S. :  $\pm$  4.0

Spreed  
Tolerance

cm<sup>3</sup>/1000 strokes : 5.0

Check tolerance  
cm<sup>3</sup>/1000S. : 9.0

---

RATED SPEED

control lever  
position degree : 63.0  
tolerance degree :  $\pm$  4.0

control lever  
position degree : 119.0  
tolerance degree :  $\pm$  4.0

rack travel mm : 13.80  
Rated speed rpm : 1300  
Tolerance 1/min :  $\pm$  5

rack travel mm : 4.00  
Rated speed rpm : 1475  
Tolerance 1/min :  $\pm$  15

rack travel mm : 0.50  
Tolerance mm :  $\pm$  0.50  
Rated speed rpm : 1600

---

LOW IDLE

control lever  
position degree : 71.0  
tolerance degree :  $\pm$  4.0

control lever  
position degree : 15.0  
tolerance degree :  $\pm$  4.0

Testing:

Rated speed rpm : 400  
rack travel mm : 5.50  
Tolerance mm :  $\pm$  0.10

Rated speed rpm : 275

CRT mm min. :  $>$  7.20

---

CONTINUOUS-ACTION CONTROL

Rated speed rpm : 423

---

TORQUE CONTROL

Rated speed rpm : 1250  
rack travel mm : 14.85  
Tolerance mm : ± 0.05

Rated speed rpm : 800  
rack travel mm : 13.10  
Tolerance mm : ± 0.10

---

ANEROID/ALTITUDE  
COMPENSATOR TEST

SETTING

Rated speed rpm : 1250  
Pressure hPa : 1200  
rack travel mm : 14.85  
Tolerance mm : ± 0.05

MEASUREMENT

Rated speed rpm : 1250  
Pressure hPa : 690  
rack travel mm : 13.40  
Tolerance mm : ± 0.20  
Pressure hPa : 365  
rack travel mm : 10.25  
Tolerance mm : ± 0.05

---

START CUT-OUT

Rated speed rpm : > 100  
Check speed 1/min : > 80  
Rated speed rpm : < 290  
Check speed 1/min : < 300

---

FUEL DELIVERY CHARACTERISTICS

Aneroid pressure hPa : 1200  
Rated speed rpm : 800  
Del. quantity cm<sup>3</sup>/1000 strokes : 161.0  
Tolerance cm<sup>3</sup>/1000 strokes : ± 3.0  
Check tolerance cm<sup>3</sup>/1000S. : ± 6.0  
Spreed

Tolerance cm<sup>3</sup>/1000 strokes : 8.0  
Check tolerance cm<sup>3</sup>/1000S. : 12.0

Aneroid pressure hPa : -  
Rated speed rpm : 500  
Del. quantity cm<sup>3</sup>/1000 strokes : 97.5  
Tolerance cm<sup>3</sup>/1000 strokes : ± 2.0  
Check tolerance cm<sup>3</sup>/1000S. : ± 4.0

---

BREAKAWAY

Rack travel in mm : 13.80  
Rated speed rpm : 1300  
Tolerance 1/min : ± 5

---

STARTING FUEL DELIVERY

Rated speed rpm : 100  
rack travel mm : 12.50  
Tolerance mm : ± 0.50  
Del. quantity cm<sup>3</sup>/1000 strokes : 155.0  
Tolerance cm<sup>3</sup>/1000 strokes : ± 20.0  
Check tolerance cm<sup>3</sup>/1000S. : ± 25.0

---

LOW IDLE

Del. quantity cm<sup>3</sup>/1000 strokes : 36.0  
Tolerance cm<sup>3</sup>/1000 strokes : ± 3.0  
Check tolerance cm<sup>3</sup>/1000S. : ± 5.0  
Spreed Tolerance cm<sup>3</sup>/1000 strokes : 8.0  
Check tolerance cm<sup>3</sup>/1000S. : 12.0

BOSCH INJ. PUMP TEST SPECIFICATIONS

Note remarks

Refer to Service Info for test and adjustment instructions.  
See microcard(s) W400/...

Edition : 12.12.94  
Test oil : ISO 4113

Combination No. : 0402736811

Injection pump  
Pump designation : PES6P110A12ORS7213  
EP type number : 0412716804

Governor  
Governor design. : RQV400...1250PA964  
: -3K  
Governor no. : 0421815255

Cust. part No. : 3921776

Customer-spec. information  
Customer : CDC  
Motor : 6BTA-A  
Power KW : 147.0

TEST BENCH REQUIREMENTS

Test oil inlet  
temp. °C : 40  
Tolerance °C : ± 2.0

Overflow valve : 1417413047

Inlet press. bar : 1.5

Overflow quantity  
min. l/h : 120  
Tolerance l/h : ± 5.0

Test nozzle holder  
assembly : 1688901101

Opening pressure  
bar : 208.5  
Tolerance bar : ± 1.5

Test lines : 1680750008  
Outside diameter : 6.0  
x inside diameter : 2.0  
x length mm : 600

REMARKS

(A) INJECTION PUMP SETTING VALUES  
Set equal delivery quant.  
per values \_\_\_\_\_

BEGINNING OF DELIVERY

Test pressure bar : 31.0  
Tolerance bar : ± 1.0

Prestroke mm : 4.40  
Tolerance mm : ± 0.05

test only : ± 0.10

Rack travel in mm : 10.50  
Tolerance mm : ± 1.50

Firing order : 1- 5- 3- 6- 2-  
: 4

Phasing : 0-60-120-180-240  
: -300

Tolerance : ± 0.30  
Check  
tolerance °NW : ± 0.50

BEGINNING OF DELIVERY DIFFERENCE

S.o.d. blocking  
Barrel no. : 1  
Tolerance : ± 0.10  
Check  
tolerance °NW : ± 0.23

BASIC SETTING

Rated speed rpm : 1250

Rack travel in mm : 14.85



Tolerance mm : + 0.05

---

Del. quantity  
cm<sup>3</sup>/1000 strokes : 159.5

---

Tolerance  
cm<sup>3</sup>/1000 strokes : + 1.0

---

Check tolerance  
cm<sup>3</sup>/1000S. : + 4.0

---

Spreed  
Tolerance  
cm<sup>3</sup>/1000 strokes : 5.0

---

Check tolerance  
cm<sup>3</sup>/1000S. : 9.0

(B) SETTING OF INJECTION PUMP  
WITH GOVERNOR

---

GUIDE SLEEVE POSITION

control lever  
position degree : - 1

---

FULL LOAD DELIVERY AT FULL LOAD STOP

Rated speed rpm : 1250  
Aneroid pressure  
hPa : 1200  
Del. quantity  
cm<sup>3</sup>/1000 strokes : 159.5  
Tolerance  
cm<sup>3</sup>/1000 strokes : + 1.0  
Check tolerance  
cm<sup>3</sup>/1000S. : + 4.0  
Spreed  
Tolerance  
cm<sup>3</sup>/1000 strokes : 5.0  
Check tolerance  
cm<sup>3</sup>/1000S. : 9.0

---

RATED SPEED

control lever  
position degree : 60.0  
tolerance degree : + 4.0

rack travel mm : 13.80  
Rated speed rpm : 1295  
Tolerance 1/min : + 5

rack travel mm : 4.00  
Rated speed rpm : 1475  
Tolerance 1/min : + 15

rack travel mm : 0.50  
Tolerance mm : + 0.50  
Rated speed rpm : 1600

---

LOW IDLE

control lever  
position degree : 16.0  
tolerance degree : + 4.0

Testing:

Rated speed rpm : 400  
rack travel mm : 5.60  
Tolerance mm : + 0.10

Rated speed rpm : 275

CRT mm min. : > 7.20

---

CONTINUOUS-ACTION CONTROL

Rated speed rpm : 423

---

TORQUE CONTROL

Rated speed rpm : 1250  
rack travel mm : 14.85  
Tolerance mm : + 0.05

Rated speed rpm : 800  
rack travel mm : 13.30  
Tolerance mm : + 0.10

---

ANEROID/ALTITUDE  
COMPENSATOR TEST

SETTING

Rated speed rpm : 1250  
Pressure hPa : 1200  
rack travel mm : 14.85  
Tolerance mm : + 0.05

MEASUREMENT

Pressure hPa : -  
Rated speed rpm : 1250  
rack travel mm : 8.40  
Tolerance mm : + 0.20

Rated speed rpm : 1250  
Pressure hPa : 755  
rack travel mm : 13.90  
Tolerance mm :  $\pm$  0.20  
Pressure hPa : 410  
rack travel mm : 10.65  
Tolerance mm :  $\pm$  0.05

---

START CUT-OUT

Rated speed rpm : > 100  
Check  
speed 1/min : > 80  
Rated speed rpm : < 290  
Check  
speed 1/min : < 300

---

FUEL DELIVERY CHARACTERISTICS

Aneroid pressure  
hPa : 1200  
Rated speed rpm : 800  
Del. quantity  
cm<sup>3</sup>/1000 strokes : 159.5  
Tolerance  
cm<sup>3</sup>/1000 strokes :  $\pm$  3.0  
Check tolerance  
cm<sup>3</sup>/1000S. :  $\pm$  6.0  
Speed  
Tolerance  
cm<sup>3</sup>/1000 strokes : 8.0  
Check tolerance  
cm<sup>3</sup>/1000S. : 12.0

Aneroid pressure  
hPa : -  
Rated speed rpm : 500  
Del. quantity  
cm<sup>3</sup>/1000 strokes : 92.0  
Tolerance  
cm<sup>3</sup>/1000 strokes :  $\pm$  2.0  
Check tolerance  
cm<sup>3</sup>/1000S. :  $\pm$  4.0

---

BREAKAWAY

Rack travel in mm : 13.80  
Rated speed rpm : 1295  
Tolerance 1/min :  $\pm$  5

---

STARTING FUEL DELIVERY

J08

Rated speed rpm : 100  
rack travel mm : 12.40  
Tolerance mm :  $\pm$  0.50  
Del. quantity  
cm<sup>3</sup>/1000 strokes : 155.0  
Tolerance  
cm<sup>3</sup>/1000 strokes :  $\pm$  20.0  
Check tolerance  
cm<sup>3</sup>/1000S. :  $\pm$  25.0

BOSCH INJ. PUMP TEST SPECIFICATIONS

Note remarks

Refer to Service Info for test and adjustment instructions.  
See microcard(s) W400/...

Edition : 12.12.94  
Test oil : ISO 4113

Combination No. : 0402736812

Injection pump  
Pump designation : PES6P110A12ORS7214  
EP type number : 0412716805

Governor  
Governor design. : RQV350...1200PA964  
                  : -4K  
Governor no. : 0421815256

Cust. part No. : 3921774

Customer-spec. information

Customer : CDC  
Motor : 6CTA-A  
Power KW : 156.0

TEST BENCH REQUIREMENTS

Test oil inlet  
temp. °C : 40  
Tolerance °C : ± 2.0

Overflow valve : 1417413047

Inlet press. bar : 1.5

Overflow quantity  
min. l/h : 120  
Tolerance l/h : ± 5.0

Test nozzle holder  
assembly : 1688901101

Opening pressure  
bar : 208.5  
Tolerance bar : ± 1.5

Test Lines : 1680750008

Outside diameter : 6.0

x inside diameter : 2.0  
x length mm : 600

REMARKS

(A) INJECTION PUMP SETTING VALUES  
Set equal delivery quant.  
per values \_\_\_\_\_

BEGINNING OF DELIVERY

Test pressure bar : 31.0  
Tolerance bar : ± 1.0

Prestroke mm : 4.40  
Tolerance mm : ± 0.05

test only : ± 0.10

Rack travel in mm : 10.50  
Tolerance mm : ± 1.50

Firing order : 1- 5- 3- 6- 2-  
                  : 4

Phasing : 0-60-120-180-240  
          : -300  
Tolerance : ± 0.30  
Check  
tolerance °NW : ± 0.50

BEGINNING OF DELIVERY DIFFERENCE

Time to cyl. no. : 1  
S.o.d. blocking  
Barrel no. : 1  
Tolerance : ± 0.10  
Check  
tolerance °NW : ± 0.23

BASIC SETTING

Rated speed rpm : 1200

---

Rack travel in mm : 12.35  
Tolerance mm : ± 0.05

---

Del. quantity  
cm<sup>3</sup>/1000 strokes : 148.5

---

Tolerance  
cm<sup>3</sup>/1000 strokes : ± 1.0

---

Check tolerance  
cm<sup>3</sup>/1000S. : ± 4.0

---

Speed  
Tolerance  
cm<sup>3</sup>/1000 strokes : 5.0

---

Check tolerance  
cm<sup>3</sup>/1000S. : 9.0

(B) SETTING OF INJECTION PUMP  
WITH GOVERNOR

---

GUIDE SLEEVE POSITION

control lever  
position degree : - 1  
Rated speed rpm : 1260

Rack travel in mm : 16.50  
Tolerance mm : ± 1.30

---

FULL LOAD DELIVERY AT FULL LOAD STOP

Rated speed rpm : 1200  
Aneroid pressure  
hPa : 1200  
Del. quantity  
cm<sup>3</sup>/1000 strokes : 148.5  
Tolerance  
cm<sup>3</sup>/1000 strokes : ± 1.0  
Check tolerance  
cm<sup>3</sup>/1000S. : ± 4.0  
Speed  
Tolerance  
cm<sup>3</sup>/1000 strokes : 5.0  
Check tolerance  
cm<sup>3</sup>/1000S. : 9.0

---

RATED SPEED

control lever  
position degree : 119.0  
tolerance degree : ± 4.0

rack travel mm : 11.30  
Rated speed rpm : 1250  
Tolerance 1/min : ± 5

rack travel mm : 4.00  
Rated speed rpm : 1380  
Tolerance 1/min : ± 15

rack travel mm : 0.50  
Tolerance mm : ± 0.50  
Rated speed rpm : 1500

---

LOW IDLE

control lever  
position degree : 65.0  
tolerance degree : ± 4.0

Testing:

Rated speed rpm : 350  
rack travel mm : 5.50  
Tolerance mm : ± 0.10

Rated speed rpm : 275

CRT mm min. : > 7.20

---

CONTINUOUS-ACTION CONTROL

Rated speed rpm : 423

---

TORQUE CONTROL

Rated speed rpm : 1200  
rack travel mm : 12.35  
Tolerance mm : ± 0.05

Rated speed rpm : 650  
rack travel mm : 11.10  
Tolerance mm : ± 0.20

Rated speed rpm : 550  
rack travel mm : 11.00  
Tolerance mm : ± 0.20

---

ANEROID/ALTITUDE  
COMPENSATOR TEST

SETTING

Rated speed rpm : 1200  
Pressure hPa : 1200  
rack travel mm : 12.35  
Tolerance mm : ± 0.05

MEASUREMENT

Pressure hPa : -  
Rated speed rpm : 1200  
rack travel mm : 7.90  
Tolerance mm : ± 0.20

Rated speed rpm : 1200

Pressure hPa : 575  
rack travel mm : 11.40  
Tolerance mm : ± 0.20

Pressure hPa : 225  
rack travel mm : 8.95  
Tolerance mm : ± 0.05

START CUT-OUT

Rated speed rpm : > 100  
Check speed 1/min : > 80  
Rated speed rpm : < 290  
Check speed 1/min : < 300

FUEL DELIVERY CHARACTERISTICS

Aneroid pressure hPa : 1200  
Rated speed rpm : 650  
Del. quantity cm<sup>3</sup>/1000 strokes : 154.0  
Tolerance cm<sup>3</sup>/1000 strokes : ± 3.0  
Check tolerance cm<sup>3</sup>/1000S. : ± 6.0  
Spreed Tolerance cm<sup>3</sup>/1000 strokes : 8.0  
Check tolerance cm<sup>3</sup>/1000S. : 12.0

Aneroid pressure hPa : -  
Rated speed rpm : 500  
Del. quantity cm<sup>3</sup>/1000 strokes : 88.5  
Tolerance cm<sup>3</sup>/1000 strokes : ± 2.0

Check tolerance cm<sup>3</sup>/1000S. : ± 4.0

BREAKAWAY

Rack travel in mm : 11.30  
Rated speed rpm : 1250  
Tolerance 1/min : ± 5

STARTING FUEL DELIVERY

Del. quantity cm<sup>3</sup>/1000 strokes : 155.0  
Tolerance cm<sup>3</sup>/1000 strokes : ± 20.0  
Check tolerance cm<sup>3</sup>/1000S. : ± 25.0

BOSCH INJ. PUMP TEST SPECIFICATIONS

Note remarks

Refer to Service Info for test and adjustment instructions.  
See microcard(s) W400/...

Edition : 12.12.94  
Test oil : ISO 4113

Combination No. : 0402736823

Injection pump  
Pump designation : PES6P110A120RS7249  
EP type number : 0412716807

Governor  
Governor design. : RQV350...1150PA964  
: -9K  
Governor no. : 0421815295

Cust. part No. : 3921970

---

Customer-spec. information  
Customer : CDC  
Motor : 6CTA-A  
Power KW : 187.0

---

TEST BENCH REQUIREMENTS

Test oil inlet  
temp. °C : 40  
Tolerance °C : ± 2.0

Overflow valve : 1419992198

Inlet press. bar : 1.5

Overflow quantity  
min. l/h : 120  
Tolerance l/h : ± 5.0

Test nozzle holde  
assembly : 1688901101

Opening pressure  
bar : 208.5  
Tolerance bar : ± 1.5

Test lines : 1680750008

Outside diameter : 6.0

x inside diameter : 2.0  
x length mm : 600

---

REMARKS

(A) INJECTION PUMP SETTING VALUES  
Set equal delivery quant.  
per values \_\_\_\_\_

---

BEGINNING OF DELIVERY

Test pressure bar : 31.0  
Tolerance bar : ± 1.0

Prestroke mm : 4.40  
Tolerance mm : ± 0.05

test only : ± 0.10

Rack travel in mm : 10.50  
Tolerance mm : ± 1.50

Firing order : 1- 5- 3- 6- 2-  
: 4

Phasing : 0-60-120-180-240  
: -300

Tolerance : ± 0.30  
Check  
tolerance °NW : ± 0.50

---

BEGINNING OF DELIVERY DIFFERENCE

Time to cyl. no. : 1  
Tolerance : ± 0.10  
Check  
tolerance °NW : ± 0.23

---

BASIC SETTING

Rated speed rpm : 1150

---

Rack travel in mm : 14.35  
Tolerance mm : + 0.05

---

Del. quantity  
cm<sup>3</sup>/1000 strokes : 179.0

---

Tolerance  
cm<sup>3</sup>/1000 strokes : + 1.0

---

Check tolerance  
cm<sup>3</sup>/1000S. : + 4.0

---

Spreed  
Tolerance  
cm<sup>3</sup>/1000 strokes : 5.0

---

Check tolerance  
cm<sup>3</sup>/1000S. : 9.0

(B) SETTING OF INJECTION PUMP  
WITH GOVERNOR

---

GUIDE SLEEVE POSITION

control lever  
position degree : - 1

---

FULL LOAD DELIVERY AT FULL LOAD STOP

Rated speed rpm : 1150  
Aneroid pressure  
hPa : 1200  
Del. quantity  
cm<sup>3</sup>/1000 strokes : 179.0  
Tolerance  
cm<sup>3</sup>/1000 strokes : + 1.0  
Check tolerance  
cm<sup>3</sup>/1000S. : + 4.0  
Spreed  
Tolerance  
cm<sup>3</sup>/1000 strokes : 5.0  
Check tolerance  
cm<sup>3</sup>/1000S. : 9.0

---

RATED SPEED

control lever  
position degree : 65.0  
tolerance degree : + 4.0

rack travel mm : 13.30  
Rated speed rpm : 1205

Tolerance 1/min : + 5

rack travel mm : 4.00  
Rated speed rpm : 1385  
Tolerance 1/min : + 15

rack travel mm : 0.50  
Tolerance mm : + 0.50  
Rated speed rpm : 1500

---

LOW IDLE

control lever  
position degree : 15.0  
tolerance degree : + 4.0

Testing:

Rated speed rpm : 350  
rack travel mm : 5.50  
Tolerance mm : + 0.10

Rated speed rpm : 275

CRT mm min. : > 7.10

---

CONTINUOUS-ACTION CONTROL

Rated speed rpm : 425

---

TORQUE CONTROL

Rated speed rpm : 1150  
rack travel mm : 14.35  
Tolerance mm : + 0.05

Rated speed rpm : 650  
rack travel mm : 11.80  
Tolerance mm : + 0.20

---

ANEROID/ALTITUDE  
COMPENSATOR TEST

SETTING

Rated speed rpm : 1150  
Pressure hPa : 1200  
rack travel mm : 14.35  
Tolerance mm : + 0.05

MEASUREMENT

Pressure hPa : -  
Rated speed rpm : 1150

rack travel mm : 8.10  
Tolerance mm : ± 0.20

Rated speed rpm : 1150

Pressure hPa : 860  
rack travel mm : 13.40  
Tolerance mm : ± 0.20

Pressure hPa : 320  
rack travel mm : 9.65  
Tolerance mm : ± 0.05

---

#### START CUT-OUT

Rated speed rpm : > 100  
Check  
speed 1/min : > 80  
Rated speed rpm : < 290  
Check  
speed 1/min : < 300

---

#### FUEL DELIVERY CHARACTERISTICS

Aneroid pressure  
hPa : 1200  
Rated speed rpm : 650  
Del. quantity  
cm<sup>3</sup>/1000 strokes : 168.5  
Tolerance  
cm<sup>3</sup>/1000 strokes : ± 3.0  
Check tolerance  
cm<sup>3</sup>/1000S. : ± 6.0  
Spreed  
Tolerance  
cm<sup>3</sup>/1000 strokes : 8.0  
Check tolerance  
cm<sup>3</sup>/1000S. : 12.0

Aneroid pressure  
hPa : -  
Rated speed rpm : 500  
Del. quantity  
cm<sup>3</sup>/1000 strokes : 94.5  
Tolerance  
cm<sup>3</sup>/1000 strokes : ± 2.0  
Check tolerance  
cm<sup>3</sup>/1000S. : ± 4.0

---

#### BREAKAWAY

Rack travel in mm : 13.30  
Rated speed rpm : 1205  
Tolerance 1/min : ± 5

---

#### STARTING FUEL DELIVERY

Rated speed rpm : 100  
rack travel mm : 11.40  
Tolerance mm : ± 0.50  
Del. quantity  
cm<sup>3</sup>/1000 strokes : 155.0  
Tolerance  
cm<sup>3</sup>/1000 strokes : ± 20.0  
Check tolerance  
cm<sup>3</sup>/1000S. : ± 25.0



BOSCH INJ. PUMP TEST SPECIFICATIONS

Note remarks

Refer to Service Info for test and adjustment instructions.  
See microcard(s) W400/...

Edition : 12.12.94  
Test oil : ISO 4113  
Combination No. : 0402736829  
Injection pump  
Pump designation : PES6P120A12ORS7261  
EP type number : 0412726876  
Governor  
Governor design. : RQV350...1100PA924  
: -7K  
Governor no. : 0421815317  
Cust. part No. : 3281842

Customer-spec. information  
Customer : CUMMINS  
Motor : 6CTAA  
Power KW : 202.0

TEST BENCH REQUIREMENTS

Test oil inlet  
temp. °C : 40  
Tolerance °C : + 2.0  
Overflow valve : 1417413047  
Inlet press. bar : 1.5  
Test nozzle holde  
assembly : 1688901101  
Opening pressure  
bar : 208.5  
Tolerance bar : + 1.5  
Test lines : 1680750008  
Outside diameter : 6.0

x inside diameter : 2.0  
x length mm : 600

REMARKS

(A) INJECTION PUMP SETTING VALUES  
Set equal delivery quant.  
per values \_\_\_\_\_

BEGINNING OF DELIVERY

Test pressure bar : 31.0  
Tolerance bar : + 1.0  
Prestroke mm : 3.55  
Tolerance mm : + 0.05  
test only : + 0.10  
Rack travel in mm : 10.50  
Tolerance mm : + 1.50  
Firing order : 1- 5- 3- 6- 2-  
: 4  
Phasing : 0-60-120-180-240  
: -300  
Tolerance : + 0.30  
Check  
tolerance °NW : + 0.50

BEGINNING OF DELIVERY DIFFERENCE

S.o.d. blocking  
Barrel no. : 1  
Tolerance : + 0.10  
Check  
tolerance °NW : + 0.23

BASIC SETTING

Rated speed rpm : 1100  
Rack travel in mm : 12.05  
Tolerance mm : + 0.05  
Del. quantity  
cm<sup>3</sup>/1000 strokes : 166.0

---

Tolerance  
cm<sup>3</sup>/1000 strokes : ± 1.0

---

Check tolerance  
cm<sup>3</sup>/1000S. : ± 4.0

---

Spreed  
Tolerance  
cm<sup>3</sup>/1000 strokes : 5.0

---

Check tolerance  
cm<sup>3</sup>/1000S. : 9.0

(B) SETTING OF INJECTION PUMP  
WITH GOVERNOR

---

GUIDE SLEEVE POSITION

control lever  
position degree : - 1  
Rated speed rpm : 1400

Rack travel in mm : 9.00  
Tolerance mm : ± 3.00

---

FULL LOAD DELIVERY AT FULL LOAD STOP

Rated speed rpm : 1100  
Aneroid pressure  
hPa : 1200  
Del. quantity  
cm<sup>3</sup>/1000 strokes : 166.0  
Tolerance  
cm<sup>3</sup>/1000 strokes : ± 1.0  
Check tolerance  
cm<sup>3</sup>/1000S. : ± 4.0  
Spreed  
Tolerance  
cm<sup>3</sup>/1000 strokes : 5.0  
Check tolerance  
cm<sup>3</sup>/1000S. : 9.0

---

RATED SPEED

control lever  
position degree : 57.0  
tolerance degree : ± 4.0

control lever  
position degree : 115.0  
tolerance degree : ± 4.0

rack travel mm : 11.00  
Rated speed rpm : 1145  
Tolerance 1/min : ± 5

rack travel mm : 4.00  
Rated speed rpm : 1275  
Tolerance 1/min : ± 15

rack travel mm : 0.50  
Tolerance mm : ± 0.50  
Rated speed rpm : 1350

---

LOW IDLE

control lever  
position degree : 70.0  
tolerance degree : ± 4.0

control lever  
position degree : 17.0  
tolerance degree : ± 4.0

Testing:

Rated speed rpm : 350  
rack travel mm : 4.90  
Tolerance mm : ± 0.10

Rated speed rpm : 250

CRT mm min. : > 6.30

---

CONTINUOUS-ACTION CONTROL

Rated speed rpm : 400

---

TORQUE CONTROL

Rated speed rpm : 1100  
rack travel mm : 12.05  
Tolerance mm : ± 0.05

Rated speed rpm : 700  
rack travel mm : 11.30  
Tolerance mm : ± 0.10

Rated speed rpm : 900  
rack travel mm : 11.55  
Tolerance mm : ± 0.15

Rated speed rpm : 500  
rack travel mm : 10.55  
Tolerance mm : ± 0.15

---

ANEROID/ALTITUDE  
COMPENSATOR TEST

SETTING

Rated speed rpm : 1100  
Pressure hPa : 1200  
rack travel mm : 12.05  
Tolerance mm :  $\pm$  0.05

MEASUREMENT

Pressure hPa : -  
Rated speed rpm : 1100  
rack travel mm : 7.60  
Tolerance mm :  $\pm$  0.10

Rated speed rpm : 1100

Pressure hPa : 320  
rack travel mm : 8.30  
Tolerance mm :  $\pm$  0.20

Pressure hPa : 700  
rack travel mm : 11.15  
Tolerance mm :  $\pm$  0.05

---

START CUT-OUT

Rated speed rpm :  $>$  100  
Check  
speed 1/min :  $>$  80  
Rated speed rpm :  $<$  270  
Check  
speed 1/min :  $<$  290

---

FUEL DELIVERY CHARACTERISTICS

Aneroid pressure  
hPa : 1200  
Rated speed rpm : 700  
Del. quantity  
cm<sup>3</sup>/1000 strokes : 180.0  
Tolerance  
cm<sup>3</sup>/1000 strokes :  $\pm$  3.0  
Check tolerance  
cm<sup>3</sup>/1000S. :  $\pm$  6.0  
Spreed  
Tolerance  
cm<sup>3</sup>/1000 strokes : 8.0  
Check tolerance  
cm<sup>3</sup>/1000S. : 12.0

Aneroid pressure  
hPa : -

Rated speed rpm : 500  
Del. quantity  
cm<sup>3</sup>/1000 strokes : 107.0  
Tolerance  
cm<sup>3</sup>/1000 strokes :  $\pm$  2.0  
Check tolerance  
cm<sup>3</sup>/1000S. :  $\pm$  4.0

---

BREAKAWAY

Rack travel in mm : 11.00  
Rated speed rpm : 1145  
Tolerance 1/min :  $\pm$  5

---

STARTING FUEL DELIVERY

Rated speed rpm : 100  
Del. quantity  
cm<sup>3</sup>/1000 strokes : 265.0  
Tolerance  
cm<sup>3</sup>/1000 strokes :  $\pm$  15.0  
Check tolerance  
cm<sup>3</sup>/1000S. :  $\pm$  19.0

# BOSCH INJ. PUMP TEST SPECIFICATIONS

## Note remarks

Refer to Service Info for test and adjustment instructions.  
See microcard(s) W400/...

Edition : 12.12.94  
Test oil : ISO 4113  
Combination No. : 0402736830  
Injection pump  
Pump designation : PES6P110A120RS7263  
EP type number : 0412716808  
Governor  
Governor design. : RQV350...1250PA964  
                  : -11K  
Governor no. : 0421815321  
Cust. part No. : 3281780

---

Customer-spec. information  
Customer : CUMMINS  
Motor : 6BTAA  
Power KW : 154.0

## TEST BENCH REQUIREMENTS

Test oil inlet  
temp. °C : 40  
Tolerance °C : ± 2.0  
Overflow valve : 1417413047  
Inlet press. bar : 1.5  
Test nozzle holder  
assembly : 1688901101  
Opening pressure  
bar : 208.5  
Tolerance bar : ± 1.5  
Test lines : 1680750008  
Outside diameter : 6.0

x inside diameter : 2.0  
x length mm : 600

---

## REMARKS

(A) INJECTION PUMP SETTING VALUES  
Set equal delivery quant.  
per values \_\_\_\_\_

---

## BEGINNING OF DELIVERY

Test pressure bar : 31.0  
Tolerance bar : ± 1.0  
Prestroke mm : 4.40  
Tolerance mm : ± 0.05  
test only : ± 0.10  
Rack travel in mm : 10.50  
Tolerance mm : ± 1.50  
Firing order : 1- 5- 3- 6- 2-  
                  : 4  
Phasing : 0-60-120-180-240  
          : -300  
Tolerance : ± 0.30  
Check  
tolerance °NW : ± 0.50

---

## BEGINNING OF DELIVERY DIFFERENCE

S.o.d. blocking  
Barrel no. : 1  
Tolerance : ± 0.10  
Check  
tolerance °NW : ± 0.23

---

## BASIC SETTING

Rated speed rpm : 1100

---

Rack travel in mm : 13.85  
Tolerance mm : ± 0.05

---

Del. quantity  
cm<sup>3</sup>/1000 strokes : 152.0

Tolerance  
cm<sup>3</sup>/1000 strokes : ± 1.0

Check tolerance  
cm<sup>3</sup>/1000S. : ± 4.0

Spread  
Tolerance  
cm<sup>3</sup>/1000 strokes : 5.0

Check tolerance  
cm<sup>3</sup>/1000S. : 9.0

(B) SETTING OF INJECTION PUMP  
WITH GOVERNOR

GUIDE SLEEVE TRAVEL

Rated speed rpm : 350  
guide sleeve  
travel mm : 1.94  
Tolerance mm : ± 0.25

Rated speed rpm : 1316  
guide sleeve  
travel mm : 8.13  
Tolerance mm : ± 0.25

Rated speed rpm : 826  
guide sleeve  
travel mm : 4.51  
Tolerance mm : ± 0.25

Rated speed rpm : 353  
guide sleeve  
travel mm : 1.77  
Tolerance mm : ± 0.25

Rated speed rpm : 403  
guide sleeve  
travel mm : 2.42  
Tolerance mm : ± 0.25

Rated speed rpm : 460  
guide sleeve  
travel mm : 2.82  
Tolerance mm : ± 0.25

Rated speed rpm : 1620  
guide sleeve  
travel mm : 11.50  
Tolerance mm : ± 0.50

GUIDE SLEEVE POSITION

control lever  
position degree : - 1  
Rated speed rpm : 1440

Rack travel in mm : 9.00  
Tolerance mm : ± 3.00

FULL LOAD DELIVERY AT FULL LOAD STOP

Rated speed rpm : 1100  
Aneroid pressure  
hPa : 1200  
Del. quantity  
cm<sup>3</sup>/1000 strokes : 152.0  
Tolerance  
cm<sup>3</sup>/1000 strokes : ± 1.0  
Check tolerance  
cm<sup>3</sup>/1000S. : ± 4.0  
Spread  
Tolerance  
cm<sup>3</sup>/1000 strokes : 5.0  
Check tolerance  
cm<sup>3</sup>/1000S. : 9.0

RATED SPEED

control lever  
position degree : 63.0  
tolerance degree : ± 4.0

control lever  
position degree : 121.0  
tolerance degree : ± 4.0

rack travel mm : 13.50  
Rated speed rpm : 1310  
Tolerance 1/min : ± 5

rack travel mm : 4.00  
Rated speed rpm : 1450  
Tolerance 1/min : ± 15

rack travel mm : 0.50  
Tolerance mm : ± 0.50  
Rated speed rpm : 1600

LOW IDLE

control lever  
position degree : 72.0  
tolerance degree : ± 4.0

control lever  
position degree : 17.0  
tolerance degree : ± 4.0

#### Testing:

Rated speed rpm : 350  
rack travel mm : 5.00  
Tolerance mm : ± 0.10

Rated speed rpm : 250

CRT mm min. : > 6.50

---

#### CONTINUOUS-ACTION CONTROL

Rated speed rpm : 375

---

#### TORQUE CONTROL

Rated speed rpm : 1100  
rack travel mm : 13.85  
Tolerance mm : ± 0.05

Rated speed rpm : 750  
rack travel mm : 12.40  
Tolerance mm : ± 0.10

Rated speed rpm : 1250  
rack travel mm : 14.50  
Tolerance mm : ± 0.10

Rated speed rpm : 400  
rack travel mm : 11.65  
Tolerance mm : ± 0.15

---

#### ANEROID/ALTITUDE COMPENSATOR TEST

#### SETTING

Rated speed rpm : 1250  
Pressure hPa : 1200  
rack travel mm : 14.50  
Tolerance mm : ± 0.10

#### MEASUREMENT

Pressure hPa : -  
Rated speed rpm : 1250  
Tolerance mm : ± 0.20

Rated speed rpm : 1250

Pressure hPa : 570

rack travel mm : 11.30  
Tolerance mm : ± 0.20

Pressure hPa : 775  
rack travel mm : 13.15  
Tolerance mm : ± 0.05

---

#### START CUT-OUT

Rated speed rpm : > 100  
Check  
speed 1/min : > 80  
Rated speed rpm : < 270  
Check  
speed 1/min : < 290

---

#### FUEL DELIVERY CHARACTERISTICS

Aneroid pressure  
hPa : 1200  
Rated speed rpm : 750  
Del. quantity  
cm<sup>3</sup>/1000 strokes : 154.0  
Tolerance  
cm<sup>3</sup>/1000 strokes : ± 3.0  
Check tolerance  
cm<sup>3</sup>/1000S. : ± 6.0  
Spreed  
Tolerance  
cm<sup>3</sup>/1000 strokes : 8.0  
Check tolerance  
cm<sup>3</sup>/1000S. : 12.0

Aneroid pressure  
hPa : -  
Rated speed rpm : 500  
Del. quantity  
cm<sup>3</sup>/1000 strokes : 116.0  
Tolerance  
cm<sup>3</sup>/1000 strokes : ± 1.0  
Check tolerance  
cm<sup>3</sup>/1000S. : ± 4.0

---

#### BREAKAWAY

Rack travel in mm : 13.50  
Rated speed rpm : 1310  
Tolerance 1/min : ± 5

---

#### STARTING FUEL DELIVERY

Rated speed rpm : 100  
rack travel mm : 12.50  
Tolerance mm : ± 0.50

Del. quantity  
cm<sup>3</sup>/1000 strokes : 155.0  
Tolerance  
cm<sup>3</sup>/1000 strokes : ± 20.0  
Check tolerance  
cm<sup>3</sup>/1000S. : ± 24.0



BOSCH INJ. PUMP TEST SPECIFICATIONS

Note remarks

Refer to Service Info for test and adjustment instructions.  
See microcard(s) W400/...

Edition : 12.12.94  
Test oil : ISO 4113  
Combination No. : 0402736831  
Injection pump  
Pump designation : PES6P120A120RS7261  
EP type number : 0412726876  
Governor  
Governor design. : RQV350...1100PA924  
                  : -8K  
Governor no. : 0421815318  
Cust. part No. : 3281841

Customer-spec. information  
Customer : CUMMINS  
Motor : 6CTAA  
Power KW : 176.0

TEST BENCH REQUIREMENTS

Test oil inlet  
temp. °C : 40  
Tolerance °C : ± 2.0  
Overflow valve : 1417413047  
Inlet press. bar : 1.5  
Test nozzle holder  
assembly : 1688901101  
Opening pressure  
bar : 208.5  
Tolerance bar : ± 1.5  
Test lines : 1680750008  
Outside diameter : 6.0

x inside diameter : 2.0  
x length mm : 600

REMARKS

(A) INJECTION PUMP SETTING VALUES  
Set equal delivery quant.  
per values \_\_\_\_\_

BEGINNING OF DELIVERY

Test pressure bar : 31.0  
Tolerance bar : ± 1.0  
Prestroke mm : 3.55  
Tolerance mm : ± 0.05  
test only : ± 0.10  
Rack travel in mm : 10.50  
Tolerance mm : ± 1.50  
Firing order : 1- 5- 3- 6- 2-  
                  : 4  
Phasing : 0-60-120-180-240  
          : -300  
Tolerance : ± 0.30  
Check  
tolerance °NW : ± 0.50

BEGINNING OF DELIVERY DIFFERENCE

S.o.d. blocking  
Barrel no. : 1  
Tolerance : ± 0.10  
Check  
tolerance °NW : ± 0.23

BASIC SETTING

Rated speed rpm : 1100  
Rack travel in mm : 10.85  
Tolerance mm : ± 0.05  
Del. quantity  
cm<sup>3</sup>/1000 strokes : 145.0



---

Tolerance  
cm<sup>3</sup>/1000 strokes : ± 1.0

---

Check tolerance  
cm<sup>3</sup>/1000S. : ± 4.0

---

Spreed  
Tolerance  
cm<sup>3</sup>/1000 strokes : 5.0

---

Check tolerance  
cm<sup>3</sup>/1000S. : 9.0

(B) SETTING OF INJECTION PUMP  
WITH GOVERNOR

---

GUIDE SLEEVE POSITION

control lever  
position degree : - 1  
Rated speed rpm : 1400

Rack travel in mm : 9.00  
Tolerance mm : ± 3.00

---

FULL LOAD DELIVERY AT FULL LOAD STOP

Rated speed rpm : 1100  
Aneroid pressure  
hPa : 900  
Del. quantity  
cm<sup>3</sup>/1000 strokes : 145.0  
Tolerance  
cm<sup>3</sup>/1000 strokes : ± 1.0  
Check tolerance  
cm<sup>3</sup>/1000S. : ± 4.0  
Spreed  
Tolerance  
cm<sup>3</sup>/1000 strokes : 5.0  
Check tolerance  
cm<sup>3</sup>/1000S. : 9.0

---

RATED SPEED

control lever  
position degree : 113.0  
tolerance degree : ± 4.0

rack travel mm : 9.80  
Rated speed rpm : 1145  
Tolerance 1/min : ± 5

rack travel mm : 4.00  
Rated speed rpm : 1255  
Tolerance 1/min : ± 15

rack travel mm : 0.50  
Tolerance mm : ± 0.50  
Rated speed rpm : 1350

---

LOW IDLE

control lever  
position degree : 68.0  
tolerance degree : ± 4.0

Testing:

Rated speed rpm : 350  
rack travel mm : 5.10  
Tolerance mm : ± 0.10

Rated speed rpm : 250  
CRT mm min. : > 6.60

---

CONTINUOUS-ACTION CONTROL

Rated speed rpm : 400

---

TORQUE CONTROL

Rated speed rpm : 1100  
rack travel mm : 10.85  
Tolerance mm : ± 0.05

Rated speed rpm : 700  
rack travel mm : 10.00  
Tolerance mm : ± 0.10

Rated speed rpm : 900  
rack travel mm : 10.35  
Tolerance mm : ± 0.15

Rated speed rpm : 400  
rack travel mm : 9.15  
Tolerance mm : ± 0.15

---

ANEROID/ALTITUDE  
COMPENSATOR TEST

SETTING

Rated speed rpm : 1100  
Pressure hPa : 900  
rack travel mm : 10.85

Tolerance mm :  $\pm$  0.05

#### MEASUREMENT

Pressure hPa : -  
Rated speed rpm : 1100  
rack travel mm : 7.70  
Tolerance mm :  $\pm$  0.10

Rated speed rpm : 1100

Pressure hPa : 320  
rack travel mm : 8.50  
Tolerance mm :  $\pm$  0.20

Pressure hPa : 560  
rack travel mm : 10.25  
Tolerance mm :  $\pm$  0.05

---

#### START CUT-OUT

Rated speed rpm : > 100  
Check  
speed 1/min : > 80  
Rated speed rpm : < 270  
Check  
speed 1/min : < 290

---

#### FUEL DELIVERY CHARACTERISTICS

Aneroid pressure  
hPa : 900  
Rated speed rpm : 700  
Del. quantity  
cm<sup>3</sup>/1000 strokes : 150.0  
Tolerance  
cm<sup>3</sup>/1000 strokes :  $\pm$  3.0  
Check tolerance  
cm<sup>3</sup>/1000S. :  $\pm$  6.0  
Spreed  
Tolerance  
cm<sup>3</sup>/1000 strokes : 8.0  
Check tolerance  
cm<sup>3</sup>/1000S. : 12.0

Aneroid pressure  
hPa : -  
Rated speed rpm : 500  
Del. quantity  
cm<sup>3</sup>/1000 strokes : 107.0  
Tolerance  
cm<sup>3</sup>/1000 strokes :  $\pm$  2.0  
Check tolerance  
cm<sup>3</sup>/1000S. :  $\pm$  4.0

---

#### BREAKAWAY

Rack travel in mm : 9.80  
Rated speed rpm : 1145  
Tolerance 1/min :  $\pm$  5

---

#### STARTING FUEL DELIVERY

Rated speed rpm : 100  
Del. quantity  
cm<sup>3</sup>/1000 strokes : 265.0  
Tolerance  
cm<sup>3</sup>/1000 strokes :  $\pm$  15.0  
Check tolerance  
cm<sup>3</sup>/1000S. :  $\pm$  19.0

BOSCH INJ. PUMP TEST SPECIFICATIONS

Note remarks

Refer to Service Info for test and adjustment instructions.  
See microcard(s) W400/...

Edition : 12.12.94  
Test oil : ISO 4113

Combination No. : 0402736858

Injection pump  
Pump designation : PES6P110A12ORS7214  
EP type number : 0412716805

Governor  
Governor design. : RGV350...1200PA964  
: -28K  
Governor no. : 0421815428

Cust. part No. : 3282464

---

Customer-spec. information  
Customer : CUMMINS  
Motor : 6CTA-A  
Power KW : 156.0

---

TEST BENCH REQUIREMENTS

Test oil inlet  
temp. °C : 40  
Tolerance °C : ± 2.0

Overflow valve : 1417413047

Inlet press. bar : 1.5

Overflow quantity  
min. L/h : 120  
Tolerance L/h : ± 10.0

Test nozzle holder  
assembly : 1688901101

Opening pressure  
bar : 208.5  
Tolerance bar : ± 1.5

Test Lines : 1680750008

Outside diameter : 6.0

x inside diameter : 2.0  
x length mm : 600

---

REMARKS

(A) INJECTION PUMP SETTING VALUES  
Set equal delivery quant.  
per values \_\_\_\_\_

---

BEGINNING OF DELIVERY

Test pressure bar : 31.0  
Tolerance bar : ± 1.0

Prestroke mm : 4.40  
Tolerance mm : ± 0.05

test only : ± 0.10

Rack travel in mm : 10.50  
Tolerance mm : ± 1.50

Firing order : 1- 5- 3- 6- 2-  
: 4

Phasing : 0-60-120-180-240  
: -300

Tolerance : ± 0.30  
Check  
tolerance °NW : ± 0.50

---

BEGINNING OF DELIVERY DIFFERENCE

S.o.d. blocking  
Barrel no. : 1  
Tolerance : ± 0.10  
Check  
tolerance °NW : ± 0.23

---

BASIC SETTING

Rated speed rpm : 1200

---

Rack travel in mm : 12.35  
Tolerance mm : + 0.05

---

Del. quantity  
cm<sup>3</sup>/1000 strokes : 148.5

---

Tolerance  
cm<sup>3</sup>/1000 strokes : + 1.0

---

Check tolerance  
cm<sup>3</sup>/1000S. : + 4.0

---

Speed  
Tolerance  
cm<sup>3</sup>/1000 strokes : 5.0

---

Check tolerance  
cm<sup>3</sup>/1000S. : 9.0

(B) SETTING OF INJECTION PUMP  
WITH GOVERNOR

---

GUIDE SLEEVE TRAVEL

Rated speed rpm : 350  
guide sleeve  
travel mm : 1.80  
Tolerance mm : + 0.20

Rated speed rpm : 1200  
guide sleeve  
travel mm : 9.10  
Tolerance mm : + 0.10

Rated speed rpm : 450  
guide sleeve  
travel mm : 3.30  
Tolerance mm : + 0.20

Rated speed rpm : 700  
guide sleeve  
travel mm : 6.10  
Tolerance mm : + 0.20

Rated speed rpm : 1400  
guide sleeve  
travel mm : 10.90  
Tolerance mm : + 0.20

---

GUIDE SLEEVE POSITION

control lever  
position degree : - 1  
Rated speed rpm : 1330

Rack travel in mm : 16.50  
Tolerance mm : + 1.30

---

FULL LOAD DELIVERY AT FULL LOAD STOP

Rated speed rpm : 1200  
Aneroid pressure  
hPa : 1200  
Del. quantity  
cm<sup>3</sup>/1000 strokes : 148.5  
Tolerance  
cm<sup>3</sup>/1000 strokes : + 1.0  
Check tolerance  
cm<sup>3</sup>/1000S. : + 4.0  
Speed  
Tolerance  
cm<sup>3</sup>/1000 strokes : 5.0  
Check tolerance  
cm<sup>3</sup>/1000S. : 9.0

---

RATED SPEED

control lever  
position degree : 119.0  
tolerance degree : + 4.0

rack travel mm : 11.30  
Rated speed rpm : 1250  
Tolerance 1/min : + 5

rack travel mm : 4.00  
Rated speed rpm : 1380  
Tolerance 1/min : + 15

rack travel mm : 0.50  
Tolerance mm : + 0.50  
Rated speed rpm : 1500

---

LOW IDLE

control lever  
position degree : 65.0  
tolerance degree : + 4.0

Testing:

Rated speed rpm : 350  
rack travel mm : 5.50  
Tolerance mm : + 0.10

Rated speed rpm : 275

CRT mm min. : > 7.20

---

CONTINUOUS-ACTION CONTROL

Rated speed rpm : 423

---

TORQUE CONTROL

Rated speed rpm : 1200  
rack travel mm : 12.35  
Tolerance mm : ± 0.05

Rated speed rpm : 650  
rack travel mm : 11.10  
Tolerance mm : ± 0.20

Rated speed rpm : 550  
rack travel mm : 11.00  
Tolerance mm : ± 0.20

---

ANEROID/ALTITUDE  
COMPENSATOR TEST

SETTING

Rated speed rpm : 1200  
Pressure hPa : 1200  
rack travel mm : 12.35  
Tolerance mm : ± 0.05

MEASUREMENT

Pressure hPa : -  
Rated speed rpm : 1200  
rack travel mm : 7.90  
Tolerance mm : ± 0.20

Rated speed rpm : 1200

Pressure hPa : 575  
rack travel mm : 11.40  
Tolerance mm : ± 0.20

Pressure hPa : 225  
rack travel mm : 8.95  
Tolerance mm : ± 0.05

---

START CUT-OUT

Rated speed rpm : > 100  
Check  
speed 1/min : > 80  
Rated speed rpm : < 290  
Check  
speed 1/min : < 300

---

FUEL DELIVERY CHARACTERISTICS

Aneroid pressure  
hPa : 1200  
Rated speed rpm : 650  
Del. quantity  
cm<sup>3</sup>/1000 strokes : 154.0  
Tolerance  
cm<sup>3</sup>/1000 strokes : ± 3.0  
Check tolerance  
cm<sup>3</sup>/1000S. : ± 6.0  
Spreed  
Tolerance  
cm<sup>3</sup>/1000 strokes : 8.0  
Check tolerance  
cm<sup>3</sup>/1000S. : 12.0

Aneroid pressure  
hPa : -  
Rated speed rpm : 500  
Del. quantity  
cm<sup>3</sup>/1000 strokes : 91.5  
Tolerance  
cm<sup>3</sup>/1000 strokes : ± 2.0  
Check tolerance  
cm<sup>3</sup>/1000S. : ± 4.0

---

BREAKAWAY

Rack travel in mm : 11.30  
Rated speed rpm : 1250  
Tolerance 1/min : ± 5

---

STARTING FUEL DELIVERY

Del. quantity  
cm<sup>3</sup>/1000 strokes : 155.0  
Tolerance  
cm<sup>3</sup>/1000 strokes : ± 20.0  
Check tolerance  
cm<sup>3</sup>/1000S. : ± 25.0

BOSCH INJ. PUMP TEST SPECIFICATIONS

Note remarks

Refer to Service Info for test and adjustment instructions.  
See microcard(s) W400/...

Edition : 12.12.94  
Test oil : ISO 4113

Combination No. : 0402736859

Injection pump  
Pump designation : PES6P120A120RS7261  
EP type number : 0412726876

Governor  
Governor design. : RQV350...1100PA924  
: -10K  
Governor no. : 0421815429

Cust. part No. : 3282465

---

Customer spec. information  
Customer : CUMMINS  
Motor : 6CTAA  
Power KW : 176.0

---

TEST BENCH REQUIREMENTS

Test oil inlet  
temp. °C : 40  
Tolerance °C : +- 2.0

Overflow valve : 1417413047

Inlet press. bar : 1.5

Test nozzle holde  
assembly : 1688901101

Opening pressure  
bar : 208.5  
Tolerance bar : +- 1.5

Test lines : 1680750008

Outside diameter : 6.0

x inside diameter : 2.0  
x length mm : 600

---

REMARKS

(A) INJECTION PUMP SETTING VALUES  
Set equal delivery quant.  
per values \_\_\_\_\_

---

BEGINNING OF DELIVERY

Test pressure bar : 31.0  
Tolerance bar : +- 1.0

Prestroke mm : 3.55  
Tolerance mm : +- 0.05

test only : +- 0.10

Rack travel in mm : 10.50  
Tolerance mm : +- 1.50

Firing order : 1- 5- 3- 6- 2-  
: 4

Phasing : 0-60-120-180-240  
: -300  
Tolerance : +- 0.30  
Check  
tolerance °NW : +- 0.50

---

BEGINNING OF DELIVERY DIFFERENCE

S.o.d. blocking  
Barrel no. : 1  
Tolerance : +- 0.10  
Check  
tolerance °NW : +- 0.23

---

BASIC SETTING

Rated speed rpm : 1100

---

Rack travel in mm : 10.85  
Tolerance mm : +- 0.05

---

Del. quantity  
cm<sup>3</sup>/1000 strokes : 145.0

---

Tolerance  
cm<sup>3</sup>/1000 strokes : +- 1.0

---

Check tolerance  
cm<sup>3</sup>/1000S. : +- 4.0

---

Spreed  
Tolerance  
cm<sup>3</sup>/1000 strokes : 5.0

---

Check tolerance  
cm<sup>3</sup>/1000S. : 9.0

(B) SETTING OF INJECTION PUMP  
WITH GOVERNOR

---

GUIDE SLEEVE POSITION

control lever  
position degree : - 1  
Rated speed rpm : 1400

Rack travel in mm : 9.00  
Tolerance mm : +- 3.00

---

FULL LOAD DELIVERY AT FULL LOAD STOP

Rated speed rpm : 1100  
Aneroid pressure  
hPa : 900  
Del. quantity  
cm<sup>3</sup>/1000 strokes : 145.0  
Tolerance  
cm<sup>3</sup>/1000 strokes : +- 1.0  
Check tolerance  
cm<sup>3</sup>/1000S. : +- 4.0  
Spreed  
Tolerance  
cm<sup>3</sup>/1000 strokes : 5.0  
Check tolerance  
cm<sup>3</sup>/1000S. : 9.0

---

RATED SPEED

control lever  
position degree : 113.0  
tolerance degree : +- 4.0

rack travel mm : 9.80  
Rated speed rpm : 1145  
Tolerance 1/min : +- 5

rack travel mm : 4.00  
Rated speed rpm : 1255  
Tolerance 1/min : +- 15

rack travel mm : 0.50  
Tolerance mm : +- 0.50  
Rated speed rpm : 1350

---

LOW IDLE

control lever  
position degree : 68.0  
tolerance degree : +- 4.0

Testing:

Rated speed rpm : 350  
rack travel mm : 5.10  
Tolerance mm : +- 0.10

Rated speed rpm : 250

CRT mm min. : > 6.60

---

CONTINUOUS-ACTION CONTROL

Rated speed rpm : 400

---

TORQUE CONTROL

Rated speed rpm : 1100  
rack travel mm : 10.85  
Tolerance mm : +- 0.05

Rated speed rpm : 700  
rack travel mm : 10.00  
Tolerance mm : +- 0.10

Rated speed rpm : 900  
rack travel mm : 10.35  
Tolerance mm : +- 0.15

Rated speed rpm : 400  
rack travel mm : 9.15  
Tolerance mm : +- 0.15

---

ANEROID/ALTITUDE  
COMPENSATOR TEST

SETTING

Rated speed rpm : 1100  
Pressure hPa : 900  
rack travel mm : 10.85

Tolerance mm : ± 0.05

MEASUREMENT

Pressure hPa : -  
Rated speed rpm : 1100  
rack travel mm : 7.70  
Tolerance mm : ± 0.10

Rated speed rpm : 1100

Pressure hPa : 320  
rack travel mm : 8.50  
Tolerance mm : ± 0.20

Pressure hPa : 560  
rack travel mm : 10.25  
Tolerance mm : ± 0.05

START CUT-OUT

Rated speed rpm : > 100  
Check speed 1/min : > 80  
Rated speed rpm : < 270  
Check speed 1/min : < 290

FUEL DELIVERY CHARACTERISTICS

Aneroid pressure hPa : 900  
Rated speed rpm : 700  
Del. quantity cm<sup>3</sup>/1000 strokes : 150.0  
Tolerance cm<sup>3</sup>/1000 strokes : ± 3.0  
Check tolerance cm<sup>3</sup>/1000S. : ± 6.0  
Spreed Tolerance cm<sup>3</sup>/1000 strokes : 8.0  
Check tolerance cm<sup>3</sup>/1000S. : 12.0

Aneroid pressure hPa : -  
Rated speed rpm : 500  
Del. quantity cm<sup>3</sup>/1000 strokes : 107.0  
Tolerance cm<sup>3</sup>/1000 strokes : ± 2.0  
Check tolerance cm<sup>3</sup>/1000S. : ± 4.0

BREAKAWAY

Rack travel in mm : 9.80  
Rated speed rpm : 1145  
Tolerance 1/min : ± 5

STARTING FUEL DELIVERY

Rated speed rpm : 100  
Del. quantity cm<sup>3</sup>/1000 strokes : 265.0  
Tolerance cm<sup>3</sup>/1000 strokes : ± 15.0  
Check tolerance cm<sup>3</sup>/1000S. : ± 19.0



BOSCH INJ. PUMP TEST SPECIFICATIONS

Note remarks

Refer to Service Info for test and adjustment instructions.  
See microcard(s) W400/...

Edition : 12.12.94  
Test oil : ISO 4113

Combination No. : 0402736860

Injection pump  
Pump designation : PES6P110A12ORS7214  
EP type number : 0402716805

Governor  
Governor design. : RQV350...1200PA964  
: -29K  
Governor no. : 0421815430

Cust. part No. : 3282466

Customer-spec. information  
Customer : CDC  
Motor : 6CTA-A  
Power KW : 187.0

TEST BENCH REQUIREMENTS

Test oil inlet  
temp. °C : 40  
Tolerance °C : ± 2.0

Overflow valve : 1417413047

Inlet press. bar : 1.5

Overflow quantity  
min. l/h : 120  
Tolerance l/h : ± 5.0

Test nozzle holder  
assembly : 1688901101

Opening pressure  
bar : 208.5  
Tolerance bar : ± 1.5

Test Lines : 1680750008

Outside diameter : 6.0

x inside diameter : 2.0  
x length mm : 600

REMARKS

(A) INJECTION PUMP SETTING VALUES  
Set equal delivery quant.  
per values \_\_\_\_\_

BEGINNING OF DELIVERY

Test pressure bar : 31.0  
Tolerance bar : ± 1.0

Prestroke mm : 4.40  
Tolerance mm : ± 0.05

test only : ± 0.10

Rack travel in mm : 10.50  
Tolerance mm : ± 1.50

Firing order : 1- 5- 3- 6- 2-  
: 4

Phasing : 0-60-120-180-240  
: -300

Tolerance : ± 0.30  
Check  
tolerance °NW : ± 0.50

BEGINNING OF DELIVERY DIFFERENCE

S.o.d. blocking  
Barrel no. : 1  
Tolerance : ± 0.10  
Check  
tolerance °NW : ± 0.23

BASIC SETTING

Rated speed rpm : 1200

Rack travel in mm : 14.55  
 Tolerance mm : +- 0.05

---

Del. quantity  
 cm3/1000 strokes : 184.0

---

Tolerance  
 cm3/1000 strokes : +- 1.0

---

Check tolerance  
 cm3/1000S. : +- 4.0

---

Spreed  
 Tolerance  
 cm3/1000 strokes : 5.0

---

Check tolerance  
 cm3/1000S. : 9.0

(B) SETTING OF INJECTION PUMP  
 WITH GOVERNOR

GUIDE SLEEVE POSITION

control lever  
 position degree : - 1  
 Rated speed rpm : 1330

Rack travel in mm : 16.50  
 Tolerance mm : +- 1.30

FULL LOAD DELIVERY AT FULL LOAD STOP

Rated speed rpm : 1200  
 Aneroid pressure  
 hPa : 1200  
 Del. quantity  
 cm3/1000 strokes : 184.0  
 Tolerance  
 cm3/1000 strokes : +- 1.0  
 Check tolerance  
 cm3/1000S. : +- 4.0  
 Spreed  
 Tolerance  
 cm3/1000 strokes : 5.0  
 Check tolerance  
 cm3/1000S. : 9.0

RATED SPEED

control lever  
 position degree : 66.0

tolerance degree : +- 4.0

control lever  
 position degree : 119.0  
 tolerance degree : +- 4.0

rack travel mm : 13.50  
 Rated speed rpm : 1250  
 Tolerance 1/min : +- 5

rack travel mm : 4.00  
 Rated speed rpm : 1410  
 Tolerance 1/min : +- 15

rack travel mm : 0.50  
 Tolerance mm : +- 0.50  
 Rated speed rpm : 1500

LOW IDLE

control lever  
 position degree : 65.0  
 tolerance degree : +- 4.0

control lever  
 position degree : 15.0  
 tolerance degree : +- 4.0

Testing:

Rated speed rpm : 350  
 rack travel mm : 5.40  
 Tolerance mm : +- 0.10

Rated speed rpm : 275

CRT mm min. : > 7.20

CONTINUOUS-ACTION CONTROL

Rated speed rpm : 425

TORQUE CONTROL

Rated speed rpm : 1200  
 rack travel mm : 14.55  
 Tolerance mm : +- 0.05

Rated speed rpm : 650  
 rack travel mm : 11.50  
 Tolerance mm : +- 0.20

---

ANEROID/ALTITUDE  
COMPENSATOR TEST

SETTING

Rated speed rpm : 1200  
Pressure hPa : 1200  
rack travel mm : 14.55  
Tolerance mm :  $\pm$  0.05

MEASUREMENT

Pressure hPa : -  
Rated speed rpm : 1200  
rack travel mm : 7.70  
Tolerance mm :  $\pm$  0.20

Rated speed rpm : 1200

Pressure hPa : 860  
rack travel mm : 13.40  
Tolerance mm :  $\pm$  0.20

Pressure hPa : 320  
rack travel mm : 9.45  
Tolerance mm :  $\pm$  0.05

---

START CUT-OUT

Rated speed rpm : > 100  
Check  
speed 1/min : > 80  
Rated speed rpm : < 290  
Check  
speed 1/min : < 300

---

FUEL DELIVERY CHARACTERISTICS

Aneroid pressure  
hPa : 1200  
Rated speed rpm : 650  
Del. quantity  
cm<sup>3</sup>/1000 strokes : 167.5  
Tolerance  
cm<sup>3</sup>/1000 strokes :  $\pm$  3.0  
Check tolerance  
cm<sup>3</sup>/1000S. :  $\pm$  6.0  
Speed  
Tolerance  
cm<sup>3</sup>/1000 strokes : 8.0  
Check tolerance  
cm<sup>3</sup>/1000S. : 12.0

Aneroid pressure  
hPa : -

K05

Rated speed rpm : 500  
Del. quantity  
cm<sup>3</sup>/1000 strokes : 91.5  
Tolerance  
cm<sup>3</sup>/1000 strokes :  $\pm$  2.0  
Check tolerance  
cm<sup>3</sup>/1000S. :  $\pm$  4.0

---

BREAKAWAY

Rack travel in mm : 13.50  
Rated speed rpm : 1250  
Tolerance 1/min :  $\pm$  5

---

STARTING FUEL DELIVERY

Del. quantity  
cm<sup>3</sup>/1000 strokes : 155.0  
Tolerance  
cm<sup>3</sup>/1000 strokes :  $\pm$  20.0  
Check tolerance  
cm<sup>3</sup>/1000S. :  $\pm$  25.0

BOSCH INJ. PUMP TEST SPECIFICATIONS

Note remarks

Refer to Service Info for test and adjustment instructions.  
See microcard(s) W400/...

Edition : 12.12.94  
Test oil : ISO 4113  
Combination No. : 0402736861  
Injection pump  
Pump designation : PES6P120A12ORS7261  
EP type number : 0412726876  
Governor  
Governor design. : RQV350...1100PA924  
: -11K  
Governor no. : 0421815431  
Cust. part No. : 3282468

Customer spec. information  
Customer : CUMMINS  
Motor : 6CTAA  
Power KW : 202.0

TEST BENCH REQUIREMENTS

Test oil inlet  
temp. °C : 40  
Tolerance °C : ± 2.0  
Overflow valve : 1417413047  
Inlet press. bar : 1.5  
Test nozzle holder  
assembly : 1688901101  
Opening pressure  
bar : 208.5  
Tolerance bar : ± 1.5  
Test lines : 1680750008  
Outside diameter : 6.0

x inside diameter : 2.0  
x length mm : 600

REMARKS

(A) INJECTION PUMP SETTING VALUES  
Set equal delivery quant.  
per values \_\_\_\_\_

BEGINNING OF DELIVERY

Test pressure bar : 31.0  
Tolerance bar : ± 1.0  
Prestroke mm : 3.55  
Tolerance mm : ± 0.05  
test only : ± 0.10  
Rack travel in mm : 10.50  
Tolerance mm : ± 1.50  
Firing order : 1- 5- 3- 6- 2-  
: 4  
Phasing : 0-60-120-180-240  
: -300  
Tolerance : ± 0.30  
Check  
tolerance °NW : ± 0.50

BEGINNING OF DELIVERY DIFFERENCE

S.o.d. blocking  
Barrel no. : 1  
Tolerance : ± 0.10  
Check  
tolerance °NW : ± 0.23

BASIC SETTING

Rated speed rpm : 1100  
Rack travel in mm : 12.05  
Tolerance mm : ± 0.05  
Del. quantity  
cm<sup>3</sup>/1000 strokes : 166.0

---

Tolerance  
cm<sup>3</sup>/1000 strokes : + 1.0

---

Check tolerance  
cm<sup>3</sup>/1000S. : + 4.0

---

Spreed  
Tolerance  
cm<sup>3</sup>/1000 strokes : 5.0

---

Check tolerance  
cm<sup>3</sup>/1000S. : 9.0

(B) SETTING OF INJECTION PUMP  
WITH GOVERNOR

---

GUIDE SLEEVE POSITION

control lever  
position degree : - 1  
Rated speed rpm : 1400

Rack travel in mm : 9.00  
Tolerance mm : + 3.00

---

FULL LOAD DELIVERY AT FULL LOAD STOP

Rated speed rpm : 1100  
Aneroid pressure  
hPa : 1200  
Del. quantity  
cm<sup>3</sup>/1000 strokes : 166.0  
Tolerance  
cm<sup>3</sup>/1000 strokes : + 1.0  
Check tolerance  
cm<sup>3</sup>/1000S. : + 4.0  
Spreed  
Tolerance  
cm<sup>3</sup>/1000 strokes : 5.0  
Check tolerance  
cm<sup>3</sup>/1000S. : 9.0

---

RATED SPEED

control lever  
position degree : 57.0  
tolerance degree : + 4.0

control lever  
position degree : 115.0  
tolerance degree : + 4.0

rack travel mm : 11.00  
Rated speed rpm : 1145  
Tolerance 1/min : + 5

rack travel mm : 4.00  
Rated speed rpm : 1275  
Tolerance 1/min : + 15

rack travel mm : 0.50  
Tolerance mm : + 0.50  
Rated speed rpm : 1350

---

LOW IDLE

control lever  
position degree : 70.0  
tolerance degree : + 4.0

control lever  
position degree : 17.0  
tolerance degree : + 4.0

Testing:

Rated speed rpm : 350  
rack travel mm : 4.90  
Tolerance mm : + 0.10

Rated speed rpm : 250

CRT mm min. : > 6.30

---

CONTINUOUS-ACTION CONTROL

Rated speed rpm : 400

---

TORQUE CONTROL

Rated speed rpm : 1100  
rack travel mm : 12.05  
Tolerance mm : + 0.05

Rated speed rpm : 700  
rack travel mm : 11.30  
Tolerance mm : + 0.10

Rated speed rpm : 900  
rack travel mm : 11.55  
Tolerance mm : + 0.15

Rated speed rpm : 500  
rack travel mm : 10.55  
Tolerance mm : + 0.15

---

ANEROID/ALTITUDE  
COMPENSATOR TEST

SETTING

Rated speed rpm : 1100  
Pressure hPa : 1200  
rack travel mm : 12.05  
Tolerance mm :  $\pm$  0.05

MEASUREMENT

Pressure hPa : -  
Rated speed rpm : 1100  
rack travel mm : 7.60  
Tolerance mm :  $\pm$  0.10

Rated speed rpm : 1100

Pressure hPa : 320  
rack travel mm : 8.30  
Tolerance mm :  $\pm$  0.20

Pressure hPa : 700  
rack travel mm : 11.15  
Tolerance mm :  $\pm$  0.05

---

START CUT-OUT

Rated speed rpm :  $>$  100  
Check  
speed 1/min :  $>$  80  
Rated speed rpm :  $<$  270  
Check  
speed 1/min :  $<$  290

---

FUEL DELIVERY CHARACTERISTICS

Aneroid pressure  
hPa : 1200  
Rated speed rpm : 700  
Del. quantity  
cm<sup>3</sup>/1000 strokes : 180.0  
Tolerance  
cm<sup>3</sup>/1000 strokes :  $\pm$  3.0  
Check tolerance  
cm<sup>3</sup>/1000S. :  $\pm$  6.0  
Speed  
Tolerance  
cm<sup>3</sup>/1000 strokes : 8.0  
Check tolerance  
cm<sup>3</sup>/1000S. : 12.0

Aneroid pressure  
hPa : -

Rated speed rpm : 500  
Del. quantity  
cm<sup>3</sup>/1000 strokes : 107.0  
Tolerance  
cm<sup>3</sup>/1000 strokes :  $\pm$  2.0  
Check tolerance  
cm<sup>3</sup>/1000S. :  $\pm$  4.0

---

BREAKAWAY

Rack travel in mm : 11.00  
Rated speed rpm : 1145  
Tolerance 1/min :  $\pm$  5

---

STARTING FUEL DELIVERY

Rated speed rpm : 100  
Del. quantity  
cm<sup>3</sup>/1000 strokes : 265.0  
Tolerance  
cm<sup>3</sup>/1000 strokes :  $\pm$  15.0  
Check tolerance  
cm<sup>3</sup>/1000S. :  $\pm$  19.0

BOSCH INJ. PUMP TEST SPECIFICATIONS

Note remarks

Refer to Service Info for test and adjustment instructions.  
See microcard(s) W400/...

Edition : 12.12.94  
Test oil : ISO 4113

Combination No. : 0402736862

Injection pump  
Pump designation : PES6P110A12ORS7214  
EP type number : 0412716805

Governor  
Governor design. : RQV350...1200PA964  
: -30K  
Governor no. : 0421815432

Cust. part No. : 3282469

Customer-spec. information  
Customer : CUMMINS  
Motor : 6CTA-A  
Power KW : 213.0

TEST BENCH REQUIREMENTS

Test oil inlet  
temp. °C : 40  
Tolerance °C : ± 2.0

Overflow valve : 1417413047

Inlet press. bar : 1.5

Overflow quantity  
min. l/h : 120  
Tolerance l/h : ± 5.0

Test nozzle holder  
assembly : 1688901101

Opening pressure  
bar : 208.5  
Tolerance bar : ± 1.5

Test lines : 1680750008

Outside diameter : 6.0

x inside diameter : 2.0  
x length mm : 600

REMARKS

(A) INJECTION PUMP SETTING VALUES  
Set equal delivery quant.  
per values \_\_\_\_\_

BEGINNING OF DELIVERY

Test pressure bar : 31.0  
Tolerance bar : ± 1.0

Prestroke mm : 4.40  
Tolerance mm : ± 0.05

test only : ± 0.10

Rack travel in mm : 10.50  
Tolerance mm : ± 1.50

Firing order : 1- 5- 3- 6- 2-  
: 4

Phasing : 0-60-120-180-240  
: -300  
Tolerance : ± 0.30  
Check  
tolerance °NW : ± 0.50

BEGINNING OF DELIVERY DIFFERENCE

S.o.d. blocking  
Barrel no. : 1  
Tolerance : ± 0.10  
Check  
tolerance °NW : ± 0.23

BASIC SETTING

Rated speed rpm : 1100

Rack travel in mm : 14.75  
Tolerance mm : ± 0.05

Del. quantity  
cm<sup>3</sup>/1000 strokes : 192.5

Tolerance  
cm<sup>3</sup>/1000 strokes : ± 1.0

Check tolerance  
cm<sup>3</sup>/1000S. : ± 4.0

Spreed  
Tolerance  
cm<sup>3</sup>/1000 strokes : 5.0

Check tolerance  
cm<sup>3</sup>/1000S. : 9.0

(B) SETTING OF INJECTION PUMP  
WITH GOVERNOR

GUIDE SLEEVE POSITION

control lever  
position degree : - 1  
Rated speed rpm : 1260

Rack travel in mm : 16.50  
Tolerance mm : ± 1.30

FULL LOAD DELIVERY AT FULL LOAD STOP

Rated speed rpm : 1100  
Aneroid pressure  
hPa : 1200  
Del. quantity  
cm<sup>3</sup>/1000 strokes : 192.5  
Tolerance  
cm<sup>3</sup>/1000 strokes : ± 1.0  
Check tolerance  
cm<sup>3</sup>/1000S. : ± 4.0  
Spreed  
Tolerance  
cm<sup>3</sup>/1000 strokes : 5.0  
Check tolerance  
cm<sup>3</sup>/1000S. : 9.0

RATED SPEED

control lever  
position degree : 66.0

tolerance degree : ± 4.0

control lever  
position degree : 122.0  
tolerance degree : ± 4.0

rack travel mm : 13.20  
Rated speed rpm : 1250  
Tolerance 1/min : ± 5

rack travel mm : 4.00  
Rated speed rpm : 1405  
Tolerance 1/min : ± 15

rack travel mm : 0.50  
Tolerance mm : ± 0.50  
Rated speed rpm : 1500

LOW IDLE

control lever  
position degree : 67.0  
tolerance degree : ± 4.0

control lever  
position degree : 15.0  
tolerance degree : ± 4.0

Testing:

Rated speed rpm : 350  
rack travel mm : 5.70  
Tolerance mm : ± 0.10

Rated speed rpm : 275

CRT mm min. : > 7.20

CONTINUOUS-ACTION CONTROL

Rated speed rpm : 423

TORQUE CONTROL

Rated speed rpm : 1100  
rack travel mm : 14.75  
Tolerance mm : ± 0.05

Rated speed rpm : 650  
rack travel mm : 12.80  
Tolerance mm : ± 0.20

Rated speed rpm : 1200  
rack travel mm : 14.30  
Tolerance mm : ± 0.10



---

ANEROID/ALTITUDE  
COMPENSATOR TEST

SETTING

Rated speed rpm : 1100  
Pressure hPa : 1200  
rack travel mm : 14.75  
Tolerance mm :  $\pm$  0.05

MEASUREMENT

Pressure hPa : -  
Rated speed rpm : 1100  
rack travel mm : 8.00  
Tolerance mm :  $\pm$  0.20

Rated speed rpm : 1100

Pressure hPa : 785  
rack travel mm : 13.00  
Tolerance mm :  $\pm$  0.20

Pressure hPa : 335  
rack travel mm : 9.65  
Tolerance mm :  $\pm$  0.05

---

START CUT-OUT

Rated speed rpm : > 100  
Check  
speed 1/min : > 80  
Rated speed rpm : < 290  
Check  
speed 1/min : < 300

---

FUEL DELIVERY CHARACTERISTICS

Aneroid pressure  
hPa : 1200  
Rated speed rpm : 650  
Del. quantity  
cm<sup>3</sup>/1000 strokes : 184.0  
Tolerance  
cm<sup>3</sup>/1000 strokes :  $\pm$  3.0  
Check tolerance  
cm<sup>3</sup>/1000S. :  $\pm$  6.0  
Spreed  
Tolerance  
cm<sup>3</sup>/1000 strokes : 8.0  
Check tolerance  
cm<sup>3</sup>/1000S. : 12.0

Aneroid pressure  
hPa : -

Rated speed rpm : 500  
Del. quantity  
cm<sup>3</sup>/1000 strokes : 92.0  
Tolerance  
cm<sup>3</sup>/1000 strokes :  $\pm$  2.0  
Check tolerance  
cm<sup>3</sup>/1000S. :  $\pm$  4.0

---

BREAKAWAY

Rack travel in mm : 13.20  
Rated speed rpm : 1250  
Tolerance 1/min :  $\pm$  5

---

STARTING FUEL DELIVERY

Del. quantity  
cm<sup>3</sup>/1000 strokes : 155.0  
Tolerance  
cm<sup>3</sup>/1000 strokes :  $\pm$  20.0  
Check tolerance  
cm<sup>3</sup>/1000S. :  $\pm$  25.0

BOSCH INJ. PUMP TEST SPECIFICATIONS

Note remarks

Refer to Service Info for test and adjustment instructions.  
See microcard(s) W400/...

Edition : 12.12.94  
Test oil : ISO 4113  
Combination No. : 0402736863  
Injection pump  
Pump designation : PES6P120A12ORS7206  
EP type number : 0412726835  
Governor  
Governor design. : RQV350...1100PA924  
: -12K  
Governor no. : 0412815433  
Cust. part No. : 3282473

Customer-spec. information  
Customer : CUMMINS  
Motor : 6CTAA  
Power KW : 202.0

TEST BENCH REQUIREMENTS

Test oil inlet  
temp. °C : 40  
Tolerance °C : ± 2.0  
Overflow valve : 1417413047  
Overflow quantity  
min. l/h : 165  
Tolerance l/h : ± 5.0  
Test nozzle holder  
assembly : 1688901101  
Opening pressure  
bar : 208.5  
Tolerance bar : ± 1.5  
Test lines : 1680750008  
Outside diameter : 6.0

x inside diameter : 2.0  
x length mm : 600

REMARKS

(A) INJECTION PUMP SETTING VALUES  
Set equal delivery quant.  
per values \_\_\_\_\_

BEGINNING OF DELIVERY

Test pressure bar : 31.0  
Tolerance bar : ± 1.0  
Prestroke mm : 3.55  
Tolerance mm : ± 0.05  
test only : ± 0.10  
Rack travel in mm : 10.50  
Tolerance mm : ± 1.50  
Firing order : 1- 5- 3- 6- 2-  
: 4  
Phasing : 0-60-120-180-240  
: -300  
Tolerance : ± 0.30  
Check  
tolerance °NW : ± 0.50

BEGINNING OF DELIVERY DIFFERENCE

S.o.d. blocking  
Barrel no. : 1  
Tolerance : ± 0.10  
Check  
tolerance °NW : ± 0.23

BASIC SETTING

Rated speed rpm : 1100  
Rack travel in mm : 12.15  
Tolerance mm : ± 0.05  
Del. quantity  
cm<sup>3</sup>/1000 strokes : 159.0

---

Tolerance  
cm<sup>3</sup>/1000 strokes : + 1.0

---

Check tolerance  
cm<sup>3</sup>/1000S. : + 4.0

---

Spread  
Tolerance  
cm<sup>3</sup>/1000 strokes : 5.0

---

Check tolerance  
cm<sup>3</sup>/1000S. : 9.0

(B) SETTING OF INJECTION PUMP  
WITH GOVERNOR

---

GUIDE SLEEVE POSITION

control lever  
position degree : - 1  
Rated speed rpm : 1420

Rack travel in mm : 9.00  
Tolerance mm : + 3.00

---

FULL LOAD DELIVERY AT FULL LOAD STOP

Rated speed rpm : 1100  
Aneroid pressure  
hPa : 1200  
Del. quantity  
cm<sup>3</sup>/1000 strokes : 159.0  
Tolerance  
cm<sup>3</sup>/1000 strokes : + 1.0  
Check tolerance  
cm<sup>3</sup>/1000S. : + 4.0  
Spread  
Tolerance  
cm<sup>3</sup>/1000 strokes : 5.0  
Check tolerance  
cm<sup>3</sup>/1000S. : 9.0

---

RATED SPEED

control lever  
position degree : 57.0  
tolerance degree : + 4.0

control lever  
position degree : 115.0  
tolerance degree : + 4.0

rack travel mm : 11.10  
Rated speed rpm : 1145  
Tolerance 1/min : + 5

rack travel mm : 4.00  
Rated speed rpm : 1275  
Tolerance 1/min : + 15

rack travel mm : 0.50  
Tolerance mm : + 0.50  
Rated speed rpm : 1350

---

LOW IDLE

control lever  
position degree : 75.0  
tolerance degree : + 4.0

control lever  
position degree : 17.0  
tolerance degree : + 4.0

Testing:

Rated speed rpm : 350  
rack travel mm : 5.30  
Tolerance mm : + 0.10

Rated speed rpm : 250

CRT mm min. : > 6.80

---

CONTINUOUS-ACTION CONTROL

Rated speed rpm : 450

---

TORQUE CONTROL

Rated speed rpm : 1100  
rack travel mm : 12.15  
Tolerance mm : + 0.05

Rated speed rpm : 600  
rack travel mm : 11.20  
Tolerance mm : + 0.10

Rated speed rpm : 800  
rack travel mm : 11.80  
Tolerance mm : + 0.10

---

ANEROID/ALTITUDE  
COMPENSATOR TEST

SETTING

Rated speed rpm : 1100  
Pressure hPa : 1200  
rack travel mm : 12.15  
Tolerance mm : ± 0.05

#### MEASUREMENT

Pressure hPa : -  
Rated speed rpm : 1100  
rack travel mm : 8.20  
Tolerance mm : ± 0.10

Rated speed rpm : 1100

Pressure hPa : 300  
rack travel mm : 8.90  
Tolerance mm : ± 0.20

Pressure hPa : 600  
rack travel mm : 11.20  
Tolerance mm : ± 0.10

#### START CUT-OUT

Rated speed rpm : > 100  
Check  
speed 1/min : > 80  
Rated speed rpm : < 270  
Check  
speed 1/min : < 290

#### FUEL DELIVERY CHARACTERISTICS

Aneroid pressure  
hPa : 1200  
Rated speed rpm : 600  
Del. quantity  
cm<sup>3</sup>/1000 strokes : 177.0  
Tolerance  
cm<sup>3</sup>/1000 strokes : ± 3.0  
Check tolerance  
cm<sup>3</sup>/1000S. : ± 6.0  
Spreed  
Tolerance  
cm<sup>3</sup>/1000 strokes : 8.0  
Check tolerance  
cm<sup>3</sup>/1000S. : 12.0

Aneroid pressure  
hPa : -  
Rated speed rpm : 500  
Del. quantity  
cm<sup>3</sup>/1000 strokes : 107.0  
Tolerance  
cm<sup>3</sup>/1000 strokes : ± 2.0  
Check tolerance  
cm<sup>3</sup>/1000S. : ± 4.0

---

#### BREAKAWAY

Rack travel in mm : 11.10  
Rated speed rpm : 1145  
Tolerance 1/min : ± 5

---

#### STARTING FUEL DELIVERY

Rated speed rpm : 100  
Del. quantity  
cm<sup>3</sup>/1000 strokes : 245.0  
Tolerance  
cm<sup>3</sup>/1000 strokes : ± 10.0  
Check tolerance  
cm<sup>3</sup>/1000S. : ± 14.0

BOSCH INJ. PUMP TEST SPECIFICATIONS

Note remarks

Refer to Service Info for test and adjustment instructions.  
See microcard(s) W400/...

Edition : 16.01.95  
Test oil : ISO 4113  
  
Combination No. : 0402746931  
  
Injection pump  
Pump designation : PES6P120A320RS7236  
EP type number : 0412726848  
  
Governor  
Governor design. : RQV275...1000PA1001  
: -2  
Governor no. : 0421813989  
  
Cust. part No. : CCEP5128A 66-194

---

Customer-spec. information  
Customer : RVI  
Motor : MIDR 063540 N/3  
Power KW : 283.0

---

TEST BENCH REQUIREMENTS

Test oil inlet  
temp. °C : 40  
Tolerance °C : ± 2.0  
  
Overflow valve : 2417413071  
  
Inlet press. bar : 2.5  
Tolerance bar : ± 0.1  
  
Test nozzle holde  
assembly : 1688901105  
  
Opening pressure  
bar : 208.5  
Tolerance bar : ± 1.5  
  
Lube oil : 1409918004  
  
Test lines : 1680750089

K15

Outside diameter : 8.0  
x inside diameter : 3.0  
x length mm : 600

---

REMARKS

(A) INJECTION PUMP SETTING VALUES  
Set equal delivery quant.  
per values \_\_\_\_\_

---

BEGINNING OF DELIVERY

Test pressure bar : 31.0  
Tolerance bar : ± 1.0  
  
Prestroke mm : 4.55  
Tolerance mm : ± 0.05  
test only : ± 0.10  
  
Rack travel in mm : 19.50  
Tolerance mm : ± 1.50  
  
Firing order : 1- 5- 3- 6- 2-  
: 4  
  
Phasing : 0-60-120-180-240  
: -300  
Tolerance : ± 0.30  
Check  
tolerance °NW : ± 0.75

---

BEGINNING OF DELIVERY DIFFERENCE

Time to cyl. no. : 1

---

BASIC SETTING

Rated speed rpm : 600  
  
Rack travel in mm : -7.25

Tolerance mm	: +- 0.30
<hr/>	
Del. quantity cm <sup>3</sup> /1000 strokes	: 74.0
<hr/>	
Tolerance cm <sup>3</sup> /1000 strokes	: +- 1.0
<hr/>	
Check tolerance cm <sup>3</sup> /1000S.	: +- 4.0
<hr/>	
Spread	
<hr/>	
Tolerance cm <sup>3</sup> /1000 strokes	: 4.0
<hr/>	
Check tolerance cm <sup>3</sup> /1000S.	: 7.0
<hr/>	
Rated speed rpm	: 600
<hr/>	
Rack travel in mm	: 13.35
Tolerance mm	: +- 0.05
<hr/>	
Del. quantity cm <sup>3</sup> /1000 strokes	: 290.0
<hr/>	
Tolerance cm <sup>3</sup> /1000 strokes	: +- 2.0
<hr/>	
Check tolerance cm <sup>3</sup> /1000S.	: +- 5.0
<hr/>	
Spread	
<hr/>	
Tolerance cm <sup>3</sup> /1000 strokes	: 8.0
<hr/>	
Check tolerance cm <sup>3</sup> /1000S.	: 12.0
<hr/>	
2nd speed rpm	: 300
<hr/>	
Rack travel in mm	: -8.20
Tolerance mm	: +- 0.20
<hr/>	
Del. quantity cm <sup>3</sup> /1000 strokes	: 31.0
<hr/>	
Tolerance cm <sup>3</sup> /1000 strokes	: +- 2.5
<hr/>	
Check tolerance cm <sup>3</sup> /1000S.	: +- 5.0
<hr/>	
Spread	
<hr/>	
Tolerance cm <sup>3</sup> /1000 strokes	: 6.0
<hr/>	
Check tolerance cm <sup>3</sup> /1000S.	: 10.0

(B) SETTING OF INJECTION PUMP  
WITH GOVERNOR

---

GUIDE SLEEVE POSITION

control lever	
position degree	: - 1
Rated speed rpm	: 1190
<hr/>	
Rack travel in mm	: 13.20
Tolerance mm	: +- 1.30

---

FULL LOAD DELIVERY AT FULL LOAD STOP

Rated speed rpm	: 600
Aneroid pressure hPa	: 1000
Del. quantity cm <sup>3</sup> /1000 strokes	: 290.0
<hr/>	
Tolerance cm <sup>3</sup> /1000 strokes	: +- 2.0
<hr/>	
Check tolerance cm <sup>3</sup> /1000S.	: +- 5.0
<hr/>	
Spread	
<hr/>	
Tolerance cm <sup>3</sup> /1000 strokes	: 8.0
<hr/>	
Check tolerance cm <sup>3</sup> /1000S.	: 12.0

---

RATED SPEED

control lever	
position degree	: 301.0
tolerance degree	: +- 4.0
<hr/>	
rack travel mm	: -1.00
Rated speed rpm	: 1070
Tolerance 1/min	: +- 5
<hr/>	
rack travel mm	: -9.30
Rated speed rpm	: 1205
Tolerance 1/min	: +- 15
<hr/>	
rack travel mm	: -12.85
Tolerance mm	: +- 0.55
Rated speed rpm	: 1350

---

LOW IDLE

control lever	
position degree	: 247.0
tolerance degree	: +- 4.0

Testing:

Rated speed rpm : 300  
rack travel mm : -8.20  
Tolerance mm : ± 0.10

Rated speed rpm : 200  
CRT mm max. : < -6.80

---

CONTINUOUS-ACTION CONTROL

Rated speed rpm : 365

---

TORQUE CONTROL

Rated speed rpm : 1000  
Tolerance mm : ± 0.10

Rated speed rpm : 600  
rack travel mm : -4.50  
Tolerance mm : ± 0.10

---

ANEROID/ALTITUDE  
COMPENSATOR TEST

SETTING

Rated speed rpm : 500  
Pressure hPa : 1000

MEASUREMENT

Pressure hPa : -  
Rated speed rpm : 500  
rack travel mm : -3.80  
Tolerance mm : ± 0.30

Rated speed rpm : 500

Pressure hPa : 240  
rack travel mm : -2.60  
Tolerance mm : ± 0.20

Pressure hPa : 480  
rack travel mm : -0.75  
Tolerance mm : ± 0.05

---

START CUT-OUT

Rated speed rpm : > 100  
Check  
speed 1/min : > 80  
Rated speed rpm : < 195  
Check  
speed 1/min : < 215

---

FUEL DELIVERY CHARACTERISTICS

Aneroid pressure  
hPa : 1000  
Rated speed rpm : 600  
Del. quantity  
cm<sup>3</sup>/1000 strokes : 74.0  
Tolerance  
cm<sup>3</sup>/1000 strokes : ± 1.0  
Check tolerance  
cm<sup>3</sup>/1000S. : ± 4.0  
Spread  
Tolerance  
cm<sup>3</sup>/1000 strokes : 4.0  
Check tolerance  
cm<sup>3</sup>/1000S. : 7.0

Aneroid pressure  
hPa : 1000  
Rated speed rpm : 1000  
Del. quantity  
cm<sup>3</sup>/1000 strokes : 270.0  
Tolerance  
cm<sup>3</sup>/1000 strokes : ± 4.0  
Check tolerance  
cm<sup>3</sup>/1000S. : ± 7.0

Aneroid pressure  
hPa : 1000  
Rated speed rpm : 600  
Del. quantity  
cm<sup>3</sup>/1000 strokes : 159.0  
Tolerance  
cm<sup>3</sup>/1000 strokes : ± 5.0  
Check tolerance  
cm<sup>3</sup>/1000S. : ± 8.0  
Spread  
Tolerance  
cm<sup>3</sup>/1000 strokes : 8.0  
Check tolerance  
cm<sup>3</sup>/1000S. : 12.0

Aneroid pressure  
hPa : -  
Rated speed rpm : 500  
Del. quantity  
cm<sup>3</sup>/1000 strokes : 167.0  
Tolerance  
cm<sup>3</sup>/1000 strokes : ± 1.0  
Check tolerance  
cm<sup>3</sup>/1000S. : ± 4.0

---

BREAKAWAY

Rack travel in mm : -1.00  
Rated speed rpm : 1070

Tolerance 1/min : ± 5

---

STARTING FUEL DELIVERY

Del. quantity  
cm<sup>3</sup>/1000 strokes : 160.0  
Tolerance  
cm<sup>3</sup>/1000 strokes : ± 10.0  
Check tolerance  
cm<sup>3</sup>/1000S. : ± 14.0

---

LOW IDLE

Rated speed rpm : 300  
rack travel mm : -8.20  
Tolerance mm : ± 0.20  
Del. quantity  
cm<sup>3</sup>/1000 strokes : 31.0  
Tolerance  
cm<sup>3</sup>/1000 strokes : ± 2.5  
Check tolerance  
cm<sup>3</sup>/1000S. : ± 5.0  
Spreed  
Tolerance  
cm<sup>3</sup>/1000 strokes : 6.0  
Check tolerance  
cm<sup>3</sup>/1000S. : 10.0



BOSCH INJ. PUMP TEST SPECIFICATIONS

Note remarks

Refer to Service Info for test and adjustment instructions.  
See microcard(s) W400/...

Edition : 16.11.93  
Test oil : ISO 4113  
Combination No. : 0402746937  
Injection pump  
Pump designation : PES6P120A72DRS7268  
EP type number : 0412726884  
Governor  
Governor design. : RQ275/1100PA915-2  
Governor no. : 0421801671

Cust. part No. :

---

Customer-spec. information  
Customer : IVECO-UNIC  
Motor : 8460.41.603

---

TEST BENCH REQUIREMENTS

Test oil inlet  
temp. °C : 40  
Tolerance °C : ± 2.0  
Overflow valve : 1417413025  
Inlet press. bar : 1.5  
Tolerance bar : ± 0.1  
Test nozzle holder  
assembly : 1688901105  
Opening pressure  
bar : 208.5  
Tolerance bar : ± 1.5  
Test lines : 1680750089  
Outside diameter : 8.0  
x inside diameter : 3.0

x length mm : 600

---

REMARKS

Check electrically unlatched starting fuel delivery (EES) with 24 volt.

(A) INJECTION PUMP SETTING VALUES  
Set equal delivery quant.  
per values \_\_\_\_\_

---

BEGINNING OF DELIVERY

Test pressure bar : 31.0  
Tolerance bar : ± 1.0

Prestroke mm : 5.15  
Tolerance mm : ± 0.05

test only : ± 0.10

Rack travel in mm : 10.50  
Tolerance mm : ± 1.50

Firing order : 1- 5- 3- 6- 2-  
: 4

Phasing : 0-60-120-180-240  
: -300  
Tolerance : ± 0.30  
Check  
tolerance °NW : ± 0.75

---

BEGINNING OF DELIVERY DIFFERENCE

Time to cyl. no. : 1  
S.o.d. blocking  
Barrel no. : 1

---

BASIC SETTING

Del. quantity  
cm<sup>3</sup>/1000 strokes : 196.0  
Tolerance  
cm<sup>3</sup>/1000 strokes : ± 1.0

Check tolerance  
cm<sup>3</sup>/1000S. : ± 4.0

---

Spread  
Tolerance  
cm<sup>3</sup>/1000 strokes : 5.0

---

Check tolerance  
cm<sup>3</sup>/1000S. : 9.0

Del. quantity  
cm<sup>3</sup>/1000 strokes : 23.0

Tolerance  
cm<sup>3</sup>/1000 strokes : ± 3.0

Check tolerance  
cm<sup>3</sup>/1000S. : ± 6.0

Spread  
Tolerance  
cm<sup>3</sup>/1000 strokes : 8.0

Check tolerance  
cm<sup>3</sup>/1000S. : 12.0

(B) SETTING OF INJECTION PUMP  
WITH GOVERNOR

---

GUIDE SLEEVE POSITION

Rated speed rpm : 600

Rack travel in mm : 20.00  
Tolerance mm : ± 0.80

---

FULL LOAD DELIVERY AT FULL LOAD STOP

Rated speed rpm : 1100

Aneroid pressure  
hPa : 900

Del. quantity  
cm<sup>3</sup>/1000 strokes : 196.0

Tolerance  
cm<sup>3</sup>/1000 strokes : ± 1.0

Check tolerance  
cm<sup>3</sup>/1000S. : ± 4.0

Spread  
Tolerance  
cm<sup>3</sup>/1000 strokes : 5.0

Check tolerance  
cm<sup>3</sup>/1000S. : 9.0

---

RATED SPEED

rack travel mm : 10.90  
Rated speed rpm : 1153  
Tolerance 1/min : ± 8

rack travel mm : 4.00  
Rated speed rpm : 1245  
Tolerance 1/min : ± 15

rack travel mm : 0.50  
Tolerance mm : ± 0.50  
Rated speed rpm : 1350

---

LOW IDLE

control lever  
position degree : 74.0  
tolerance degree : ± 4.0

Testing:

Rated speed rpm : 275  
rack travel mm : 6.30  
Tolerance mm : ± 0.10

rack travel mm : 2.00  
Rated speed rpm : 365  
Tolerance 1/min : ± 20

Rated speed rpm : 100

CRT mm min. : > 7.80

---

ANEROID/ALTITUDE  
COMPENSATOR TEST

MEASUREMENT

Pressure hPa : 240  
rack travel mm : 9.50  
Tolerance mm : ± 0.10

Pressure hPa : 310  
rack travel mm : 10.85  
Tolerance mm : ± 0.05

---

FUEL DELIVERY CHARACTERISTICS

Aneroid pressure  
hPa : 900  
Rated speed rpm : 550  
Del. quantity  
cm<sup>3</sup>/1000 strokes : 216.0  
Tolerance  
cm<sup>3</sup>/1000 strokes : ± 3.0  
Check tolerance  
cm<sup>3</sup>/1000S. : ± 6.0

Aneroid pressure  
hPa : -  
Rated speed rpm : 500  
Del. quantity  
cm<sup>3</sup>/1000 strokes : 112.0  
Tolerance  
cm<sup>3</sup>/1000 strokes : ± 1.0  
Check tolerance  
cm<sup>3</sup>/1000S. : ± 4.0

---

#### BREAKAWAY

Rack travel in mm : 10.90  
Rated speed rpm : 1153  
Tolerance 1/min : ± 8

---

#### STARTING FUEL DELIVERY

Rated speed rpm : 100  
Del. quantity  
cm<sup>3</sup>/1000 strokes : 110.0  
Tolerance  
cm<sup>3</sup>/1000 strokes : ± 15.0  
Check tolerance  
cm<sup>3</sup>/1000S. : ± 19.0

---

#### LOW IDLE

Del. quantity  
cm<sup>3</sup>/1000 strokes : 23.0  
Tolerance  
cm<sup>3</sup>/1000 strokes : ± 3.0  
Check tolerance  
cm<sup>3</sup>/1000S. : ± 6.0  
Spreed  
Tolerance  
cm<sup>3</sup>/1000 strokes : 8.0  
Check tolerance  
cm<sup>3</sup>/1000S. : 12.0

BOSCH INJ. PUMP TEST SPECIFICATIONS

Note remarks

Refer to Service Info for test and adjustment instructions.  
See microcard(s) W400/...

Edition : 12.12.94  
Test oil : ISO 4113  
Combination No. : 0402936001  
Injection pump  
Pump designation : PES6P120A320/3RS8012  
EP type number : 0412926017  
Governor  
Governor design. : RQV350...1100PA964  
                  : -1K  
Governor no. : 0421815253  
Cust. part No. :

Customer-spec. information

Customer : CDC  
Motor : 6CTA US 94  
Power KW : 224.0

TEST BENCH REQUIREMENTS

Test oil inlet  
temp. °C : 40  
Tolerance °C : ± 2.0  
Overflow valve : 2417413064  
Inlet press. bar : 2.5  
Test nozzle holde  
assembly : 1688901103  
Opening pressure  
bar : 208.5  
Tolerance bar : ± 1.5  
Test lines : 1680750008  
Outside diameter : 6.0

x inside diameter : 2.0  
x length mm : 600

REMARKS

(A) INJECTION PUMP SETTING VALUES  
Set equal delivery quant.  
per values \_\_\_\_\_

BEGINNING OF DELIVERY

Test pressure bar : 31.0  
Tolerance bar : ± 1.0  
Prestroke mm : 4.40  
Tolerance mm : ± 0.05  
test only : ± 0.10  
Rack travel in mm : 10.50  
Tolerance mm : ± 1.50  
Firing order : 1- 5- 3- 6- 2-  
                  : 4  
Phasing : 0-60-120-180-240  
          : -300  
Tolerance : ± 0.30  
Check  
tolerance °NW : ± 0.50

BASIC SETTING

Rated speed rpm : 1100  
Rack travel in mm : 12.05  
Tolerance mm : ± 0.05  
Del. quantity  
cm3/1000 strokes : 113.0  
Tolerance  
cm3/1000 strokes : ± 1.0  
Speed  
Tolerance  
cm3/1000 strokes : 5.0

Check tolerance  
 cm<sup>3</sup>/1000S. : 9.0  
 2nd speed rpm : 350  
 Rack travel in mm : 9.50  
 Tolerance mm : ± 0.10  
 Del. quantity  
 cm<sup>3</sup>/1000 strokes : 27.0  
 Tolerance  
 cm<sup>3</sup>/1000 strokes : ± 3.0  
 Spreed  
 Tolerance  
 cm<sup>3</sup>/1000 strokes : 8.0  
 Check tolerance  
 cm<sup>3</sup>/1000S. : 12.0

(B) SETTING OF INJECTION PUMP  
WITH GOVERNOR

GUIDE SLEEVE POSITION

control lever  
 position degree : - 1  
 Rated speed rpm : 1310  
 Rack travel in mm : 9.00  
 Tolerance mm : ± 3.00

FULL LOAD DELIVERY AT FULL LOAD STOP

Rated speed rpm : 1100  
 Aneroid pressure  
 hPa : 1200  
 Del. quantity  
 cm<sup>3</sup>/1000 strokes : 113.0  
 Tolerance  
 cm<sup>3</sup>/1000 strokes : ± 1.0  
 Spreed  
 Tolerance  
 cm<sup>3</sup>/1000 strokes : 5.0  
 Check tolerance  
 cm<sup>3</sup>/1000S. : 9.0

RATED SPEED

control lever  
 position degree : 69.0  
 tolerance degree : ± 4.0  
 control lever  
 position degree : 118.0  
 tolerance degree : ± 4.0

rack travel mm : 11.00  
 Rated speed rpm : 1145  
 Tolerance 1/min : ± 5

rack travel mm : 4.00  
 Rated speed rpm : 1265  
 Tolerance 1/min : ± 15

rack travel mm : 0.50  
 Tolerance mm : ± 0.50  
 Rated speed rpm : 1380

LOW IDLE

control lever  
 position degree : 66.0  
 tolerance degree : ± 4.0

control lever  
 position degree : 11.0  
 tolerance degree : ± 4.0

Testing:

Rated speed rpm : 350  
 rack travel mm : 5.10  
 Tolerance mm : ± 0.10

CONTINUOUS-ACTION CONTROL

Rated speed rpm : 415

TORQUE CONTROL

Rated speed rpm : 1100  
 rack travel mm : 12.05  
 Tolerance mm : ± 0.05

Rated speed rpm : 850  
 rack travel mm : 13.30  
 Tolerance mm : ± 0.20

ANEROID/ALTITUDE  
COMPENSATOR TEST

SETTING

Rated speed rpm : 1100  
 Pressure hPa : 1200  
 rack travel mm : 12.05  
 Tolerance mm : ± 0.05

MEASUREMENT

Pressure hPa : -  
Rated speed rpm : 1100  
rack travel mm : 9.80  
Tolerance mm :  $\pm$  0.10

Rated speed rpm : 1100

Pressure hPa : 200  
rack travel mm : 10.35  
Tolerance mm :  $\pm$  0.05

---

#### FUEL DELIVERY CHARACTERISTICS

Aneroid pressure  
hPa : -  
Rated speed rpm : 500  
Del. quantity  
cm<sup>3</sup>/1000 strokes : 47.0  
Tolerance  
cm<sup>3</sup>/1000 strokes :  $\pm$  1.0

---

#### BREAKAWAY

Rack travel in mm : 11.00  
Rated speed rpm : 1145  
Tolerance 1/min :  $\pm$  5

---

#### LOW IDLE

Rated speed rpm : 350  
rack travel mm : 9.50  
Tolerance mm :  $\pm$  0.10  
Del. quantity  
cm<sup>3</sup>/1000 strokes : 27.0  
Tolerance  
cm<sup>3</sup>/1000 strokes :  $\pm$  3.0  
Speed  
Tolerance  
cm<sup>3</sup>/1000 strokes : 8.0  
Check tolerance  
cm<sup>3</sup>/1000S. : 12.0

BOSCH INJ. PUMP TEST SPECIFICATIONS

Note remarks

Refer to Service Info for test and adjustment instructions.  
See microcard(s) W400/...

Edition : 12.12.94  
Test oil : ISO 4113  
Combination No. : 0402936002  
Injection pump  
Pump designation : PES6P120A120RS8013  
EP type number : 0412726018  
Governor  
Governor design. : RQV400...1250PA964K  
Governor no. : 0421815252

Cust. part No. :

Customer-spec. information

Customer : CDC  
Motor : 6BTA US 94  
Power KW : 172.0

TEST BENCH REQUIREMENTS

Test oil inlet  
temp. °C : 40  
Tolerance °C : ± 2.0

Overflow valve : 2417413064

Inlet press. bar : 2.5

Test nozzle holde  
assembly : 1688901103

Opening pressure  
bar : 208.5  
Tolerance bar : ± 1.5

Test lines : 1680750008

Outside diameter : 6.0

x inside diameter : 2.0

x length mm : 600

REMARKS

(A) INJECTION PUMP SETTING VALUES  
Set equal delivery quant.  
per values \_\_\_\_\_

BEGINNING OF DELIVERY

Test pressure bar : 31.0  
Tolerance bar : ± 1.0

Prestroke mm : 4.40  
Tolerance mm : ± 0.05

test only : ± 0.10

Rack travel in mm : 10.50  
Tolerance mm : ± 1.50

Firing order : 1- 5- 3- 6- 2-  
: 4

Phasing : 0-60-120-180-240  
: -300

Tolerance : ± 0.30  
Check  
tolerance °NW : ± 0.50

BEGINNING OF DELIVERY DIFFERENCE

Time to cyl. no. : 1

BASIC SETTING

Rated speed rpm : 1100

Rack travel in mm : 12.05  
Tolerance mm : ± 0.05

(B) SETTING OF INJECTION PUMP  
WITH GOVERNOR

---

GUIDE SLEEVE POSITION

control lever  
position degree : - 1  
Rated speed rpm : 1470

Rack travel in mm : 9.00  
Tolerance mm : +- 3.00

---

FULL LOAD DELIVERY AT FULL LOAD STOP

Rated speed rpm : 1100  
Aneroid pressure  
hPa : 1200

---

RATED SPEED

control lever  
position degree : 56.0  
tolerance degree : +- 4.0

control lever  
position degree : 113.0  
tolerance degree : +- 4.0

rack travel mm : 11.00  
Rated speed rpm : 1295  
Tolerance 1/min : +- 5

rack travel mm : 4.00  
Rated speed rpm : 1435  
Tolerance 1/min : +- 15

rack travel mm : 0.50  
Tolerance mm : +- 0.50  
Rated speed rpm : 1500

---

LOW IDLE

control lever  
position degree : 70.0  
tolerance degree : +- 4.0

control lever  
position degree : 13.0  
tolerance degree : +- 4.0

Testing:

Rated speed rpm : 400  
rack travel mm : 5.10  
Tolerance mm : +- 0.10

K26

---

CONTINUOUS-ACTION CONTROL

Rated speed rpm : 475

---

TORQUE CONTROL

Rated speed rpm : 1100  
rack travel mm : 12.05  
Tolerance mm : +- 0.05

---

ANEROID/ALTITUDE  
COMPENSATOR TEST

SETTING

Rated speed rpm : 1250  
Pressure hPa : 1200  
rack travel mm : 12.05  
Tolerance mm : +- 0.05

MEASUREMENT

Pressure hPa : -  
Rated speed rpm : 1250  
rack travel mm : 8.50  
Tolerance mm : +- 0.10

Rated speed rpm : 1250

Pressure hPa : 200  
rack travel mm : 9.05  
Tolerance mm : +- 0.05

---

FUEL DELIVERY CHARACTERISTICS

Aneroid pressure  
hPa : -  
Rated speed rpm : 500

---

BREAKAWAY

Rack travel in mm : 11.00  
Rated speed rpm : 1295  
Tolerance 1/min : +- 5



BOSCH INJ. PUMP TEST SPECIFICATIONS

Note remarks

Refer to Service Info for test and adjustment instructions.  
See microcard(s) W400/...

Edition : 19.01.95  
Test oil : ISO 4113  
Combination No. : 0401646003  
Injection pump  
Pump designation : PES6R120/720LS1505  
: -1  
EP type number : 0411626005  
Governor  
Governor design. : RQV300...1100R3K  
Governor no. : 0421415004  
Cust. part No. : 51.11103-7393

---

Customer-spec. information  
Customer : MAN  
Motor : D2866LE401  
Power KW : 440.0

---

TEST BENCH REQUIREMENTS

Test oil inlet  
temp. °C : 40  
Tolerance °C : +- 2.0  
Overflow valve : 1417413025  
Inlet press. bar : 1.5  
Tolerance bar : +- 0.1  
Test nozzle holde  
assembly : 1688901105  
Opening pressure  
bar : 208.5  
Tolerance bar : +- 1.5  
Lube oil : 1409918004  
Test lines : 1680750089

L02

Outside diameter : 8.0  
x inside diameter : 3.0  
x length mm : 600

---

REMARKS

(A) INJECTION PUMP SETTING VALUES  
Set equal delivery quant.  
per values \_\_\_\_\_

---

BEGINNING OF DELIVERY

Test pressure bar : 31.0  
Tolerance bar : +- 1.0  
Prestroke mm : 5.45  
Tolerance mm : +- 0.05  
test only : +- 0.10  
Rack travel in mm : 12.00  
Tolerance mm : +- 0.50  
Firing order : 6- 2- 4- 1- 5-  
: 3  
Phasing : 0-60-120-180-240  
: -300  
Tolerance : +- 0.30  
Check  
tolerance °NW : +- 0.75

---

BEGINNING OF DELIVERY DIFFERENCE

Time to cyl. no. : 6

---

BASIC SETTING

Rated speed rpm : 1100  
Rack travel in mm : 15.30  
Tolerance mm : +- 0.05

---

Del. quantity cm <sup>3</sup> /1000 strokes	: 385.0
<hr/>	
Tolerance cm <sup>3</sup> /1000 strokes	: +- 1.0
<hr/>	
Check tolerance cm <sup>3</sup> /1000S.	: +- 4.0
<hr/>	
Speed Tolerance cm <sup>3</sup> /1000 strokes	: 6.0
<hr/>	
Check tolerance cm <sup>3</sup> /1000S.	: 10.0
2nd speed rpm	: 325
Rack travel in mm	: 5.10
Tolerance mm	: +- 0.20
Del. quantity cm <sup>3</sup> /1000 strokes	: 20.0
Tolerance cm <sup>3</sup> /1000 strokes	: +- 3.0
Check tolerance cm <sup>3</sup> /1000S.	: +- 6.0
Speed Tolerance cm <sup>3</sup> /1000 strokes	: 10.0
Check tolerance cm <sup>3</sup> /1000S.	: 14.0

(B) SETTING OF INJECTION PUMP  
WITH GOVERNOR

GUIDE SLEEVE TRAVEL

Rated speed rpm guide sleeve travel mm	: 325
Tolerance mm	: +- 0.25
Rated speed rpm guide sleeve travel mm	: 1164
Tolerance mm	: +- 0.25
Rated speed rpm guide sleeve travel mm	: 826
Tolerance mm	: +- 0.25
Rated speed rpm guide sleeve travel mm	: 338
Tolerance mm	: +- 0.25
Rated speed rpm	: 388

guide sleeve travel mm	: 2.90
Tolerance mm	: +- 0.25
Rated speed rpm guide sleeve travel mm	: 510
Tolerance mm	: +- 0.25
Rated speed rpm guide sleeve travel mm	: 1430
Tolerance mm	: +- 0.50

GUIDE SLEEVE POSITION

control lever position degree	: - 1
Rated speed rpm	: 1230
Rack travel in mm	: 14.30
Tolerance mm	: +- 1.30

FULL LOAD DELIVERY AT FULL LOAD STOP

Rated speed rpm	: 1100
Aneroid pressure hPa	: 2500
Del. quantity cm <sup>3</sup> /1000 strokes	: 385.0
Tolerance cm <sup>3</sup> /1000 strokes	: +- 1.0
Check tolerance cm <sup>3</sup> /1000S.	: +- 4.0
Speed Tolerance cm <sup>3</sup> /1000 strokes	: 6.0
Check tolerance cm <sup>3</sup> /1000S.	: 10.0

RATED SPEED

control lever position degree	: 122.0
tolerance degree	: +- 4.0
rack travel mm	: 14.30
Rated speed rpm	: 1152
Tolerance 1/min	: +- 8
rack travel mm	: 4.00
Rated speed rpm	: 1295
Tolerance 1/min	: +- 15
rack travel mm	: 0.50

Tolerance mm :  $\pm$  0.50  
Rated speed rpm : 1425

---

#### LOW IDLE

control lever  
position degree : 76.0  
tolerance degree :  $\pm$  4.0

#### Testing:

Rated speed rpm : 325  
rack travel mm : 5.10  
Tolerance mm :  $\pm$  0.10

Rated speed rpm : 225

CRT mm min. :  $>$  7.00

---

#### CONTINUOUS-ACTION CONTROL

Rated speed rpm : 350

---

#### TORQUE CONTROL

Rated speed rpm : 1100  
rack travel mm : 15.30  
Tolerance mm :  $\pm$  0.05

Rated speed rpm : 900  
rack travel mm : 13.90  
Tolerance mm :  $\pm$  0.10

Rated speed rpm : 700  
rack travel mm : 12.60  
Tolerance mm :  $\pm$  0.10

---

#### ANEROID/ALTITUDE COMPENSATOR TEST

#### SETTING

Rated speed rpm : 1100  
Pressure hPa : 2500  
rack travel mm : 15.30  
Tolerance mm :  $\pm$  0.05

#### MEASUREMENT

Rated speed rpm : 1100

Pressure hPa : 1400  
rack travel mm : 13.70  
Tolerance mm :  $\pm$  0.20

---

Pressure hPa : 300  
rack travel mm : 8.60  
Tolerance mm :  $\pm$  0.05

---

#### START CUT-OUT

Rated speed rpm :  $>$  100  
Check  
speed 1/min :  $>$  80  
Rated speed rpm :  $<$  260  
Check  
speed 1/min :  $<$  280

---

#### FUEL DELIVERY CHARACTERISTICS

Aneroid pressure  
hPa : 2500  
Rated speed rpm : 900  
Del. quantity  
cm<sup>3</sup>/1000 strokes : 353.0  
Tolerance  
cm<sup>3</sup>/1000 strokes :  $\pm$  3.0  
Check tolerance  
cm<sup>3</sup>/1000S. :  $\pm$  6.0

Aneroid pressure  
hPa : 2500  
Rated speed rpm : 700  
Del. quantity  
cm<sup>3</sup>/1000 strokes : 327.0  
Tolerance  
cm<sup>3</sup>/1000 strokes :  $\pm$  3.0  
Check tolerance  
cm<sup>3</sup>/1000S. :  $\pm$  6.0

Aneroid pressure  
hPa : -  
Rated speed rpm : 500  
Del. quantity  
cm<sup>3</sup>/1000 strokes : 187.0  
Tolerance  
cm<sup>3</sup>/1000 strokes :  $\pm$  1.0  
Check tolerance  
cm<sup>3</sup>/1000S. :  $\pm$  4.0

---

#### BREAKAWAY

Rack travel in mm : 14.30  
Rated speed rpm : 1152  
Tolerance 1/min :  $\pm$  8

---

#### STARTING FUEL DELIVERY

Rated speed rpm : 100  
Del. quantity  
cm<sup>3</sup>/1000 strokes : 555.0  
Tolerance  
cm<sup>3</sup>/1000 strokes : ± 20.0  
Check tolerance  
cm<sup>3</sup>/1000S. : ± 24.0

---

LOW IDLE

Rated speed rpm : 325  
rack travel mm : 5.10  
Tolerance mm : ± 0.20  
Del. quantity  
cm<sup>3</sup>/1000 strokes : 20.0  
Tolerance  
cm<sup>3</sup>/1000 strokes : ± 3.0  
Check tolerance  
cm<sup>3</sup>/1000S. : ± 6.0  
Spreed  
Tolerance  
cm<sup>3</sup>/1000 strokes : 10.0  
Check tolerance  
cm<sup>3</sup>/1000S. : 14.0

BOSCH INJ. PUMP TEST SPECIFICATIONS

Note remarks

Refer to Service Info for test and adjustment instructions.  
See microcard(s) W400/...

Edition : 19.01.95  
Test oil : ISO 4113

Combination No. : 0401840771

Injection pump  
Pump designation : PE12P120A520/4LS3854  
EP type number : 0411820728

Governor  
Governor design. : RQ950PA664-3  
Governor no. : 0421801629

Cust. part No. :

Customer-spec. information  
Customer : MAN  
Motor : D2842LE  
Power KW : 443.0

TEST BENCH REQUIREMENTS

Test oil inlet  
temp. °C : 40  
Tolerance °C : ± 2.0

Overflow valve : 1417413025

Inlet press. bar : 1.5

Test nozzle holder  
assembly : 1688901019

Opening pressure  
bar : 208.5  
Tolerance bar : ± 1.5

Test lines : 1680750075

Outside diameter : 8.0

x inside diameter : 3.0

x length mm : 1000

REMARKS

(A) INJECTION PUMP SETTING VALUES  
Set equal delivery quant.  
per values \_\_\_\_\_

BEGINNING OF DELIVERY

Test pressure bar : 31.0  
Tolerance bar : ± 1.0

Prestroke mm : 4.25  
Tolerance mm : ± 0.05

test only : ± 0.10

Rack travel in mm : 10.50  
Tolerance mm : ± 1.50

Firing order : 12- 1- 5- 9- 8  
: - 3- 4- 11- 10  
: - 2- 6- 7

Phasing : 0-45-60-105-120  
: -165-180-225-240  
: -285-300-345  
Tolerance : ± 0.35  
Check  
tolerance °NW : ± 0.75

BEGINNING OF DELIVERY DIFFERENCE

Time to cyl. no. : 12

BASIC SETTING

Rated speed rpm : 700

Rack travel in mm : 13.05  
Tolerance mm : ± 0.05

Del. quantity  
cm<sup>3</sup>/1000 strokes : 251.0

Tolerance  
cm<sup>3</sup>/1000 strokes : ± 1.0

---

Check tolerance  
cm<sup>3</sup>/1000S. : ± 4.0

---

Spreed  
Tolerance  
cm<sup>3</sup>/1000 strokes : 5.0

---

Check tolerance  
cm<sup>3</sup>/1000S. : 9.0

Del. quantity  
cm<sup>3</sup>/1000 strokes : 20.0

Tolerance  
cm<sup>3</sup>/1000 strokes : ± 3.0

Check tolerance  
cm<sup>3</sup>/1000S. : ± 6.0

Spreed  
Tolerance  
cm<sup>3</sup>/1000 strokes : 8.0

Check tolerance  
cm<sup>3</sup>/1000S. : 12.0

(B) SETTING OF INJECTION PUMP  
WITH GOVERNOR

---

FULL LOAD DELIVERY AT FULL LOAD STOP

Rated speed rpm : 700

Aneroid pressure  
hPa : -

Del. quantity  
cm<sup>3</sup>/1000 strokes : 251.0

Tolerance  
cm<sup>3</sup>/1000 strokes : ± 1.0

Check tolerance  
cm<sup>3</sup>/1000S. : ± 4.0

Spreed  
Tolerance  
cm<sup>3</sup>/1000 strokes : 5.0

Check tolerance  
cm<sup>3</sup>/1000S. : 9.0

---

RATED SPEED

rack travel mm : 12.00

Rated speed rpm : 1025

Tolerance 1/min : ± 5

rack travel mm : 4.00

Rated speed rpm : 1085

Tolerance 1/min : ± 15

rack travel mm : 0.50

Tolerance mm : ± 0.50  
Rated speed rpm : 1400

---

LOW IDLE

Testing:

Rated speed rpm : 250

rack travel mm : 4.60

Tolerance mm : ± 0.10

---

TORQUE CONTROL

Rated speed rpm : 700

rack travel mm : 13.05

Tolerance mm : ± 0.05

---

BREAKAWAY

Rack travel in mm : 12.00

Rated speed rpm : 1025

Tolerance 1/min : ± 5

---

LOW IDLE

Del. quantity  
cm<sup>3</sup>/1000 strokes : 20.0

Tolerance  
cm<sup>3</sup>/1000 strokes : ± 3.0

Check tolerance  
cm<sup>3</sup>/1000S. : ± 6.0

Spreed  
Tolerance  
cm<sup>3</sup>/1000 strokes : 8.0

Check tolerance  
cm<sup>3</sup>/1000S. : 12.0

BOSCH INJ. PUMP TEST SPECIFICATIONS

Note remarks

Refer to Service Info for test and adjustment instructions.  
See microcard(s) W400/...

Edition : 19.01.95  
Test oil : ISO 4113  
Combination No. : 0401840777  
Injection pump  
Pump designation : PE12P120A520/4LS3840  
: -1  
EP type number : 0411820731  
Governor  
Governor design. : RGV250...900PA1198  
Governor no. : 0421814117

Cust. part No. :

Customer-spec. information  
Customer : DAEWOO  
Motor : D2842LE  
Power Kw : 440.0

TEST BENCH REQUIREMENTS

Test oil inlet  
temp. °C : 40  
Tolerance °C : ± 2.0  
Overflow valve : 1417413025  
Inlet press. bar : 1.5  
Test nozzle holde  
assembly : 1688901105  
Opening pressure  
bar : 208.5  
Tolerance bar : ± 1.5  
Lube oil : 1409918004  
Test lines : 1680750089

Outside diameter : 8.0  
x inside diameter : 3.0  
x length mm : 600

REMARKS

(A) INJECTION PUMP SETTING VALUES  
Set equal delivery quant.  
per values \_\_\_\_\_

BEGINNING OF DELIVERY

Test pressure bar : 31.0  
Tolerance bar : ± 1.0  
Prestroke mm : 4.25  
Tolerance mm : ± 0.05  
test only : ± 0.10  
Rack travel in mm : 10.50  
Tolerance mm : ± 1.50  
Firing order : 12- 1- 5- 9- 8  
: - 3- 4- 11- 10  
: - 2- 6- 7

Phasing : 0-45-60-105-120  
: -165-180-225-240  
: -285-300-345  
Tolerance : ± 0.30  
Check  
tolerance °NW : ± 0.75

BEGINNING OF DELIVERY DIFFERENCE

Time to cyl. no. : 12

BASIC SETTING

Rated speed rpm : 650  
Rack travel in mm : 11.40  
Tolerance mm : ± 0.05

Del. quantity  
cm<sup>3</sup>/1000 strokes : 196.0

---

Tolerance  
cm<sup>3</sup>/1000 strokes : ± 1.0

---

Check tolerance  
cm<sup>3</sup>/1000S. : ± 4.0

---

Speed  
Tolerance  
cm<sup>3</sup>/1000 strokes : 6.0

---

Check tolerance  
cm<sup>3</sup>/1000S. : 10.0

2nd speed rpm : 250

Rack travel in mm : 6.90  
Tolerance mm : ± 0.30

Del. quantity  
cm<sup>3</sup>/1000 strokes : 25.0  
Tolerance  
cm<sup>3</sup>/1000 strokes : ± 3.0  
Check tolerance  
cm<sup>3</sup>/1000S. : ± 6.0

Speed  
Tolerance  
cm<sup>3</sup>/1000 strokes : 8.0  
Check tolerance  
cm<sup>3</sup>/1000S. : 12.0

(B) SETTING OF INJECTION PUMP  
WITH GOVERNOR

GUIDE SLEEVE POSITION

control lever  
position degree : - 1  
Rated speed rpm : 1060

Rack travel in mm : 10.40  
Tolerance mm : ± 1.30

FULL LOAD DELIVERY AT FULL LOAD STOP

Rated speed rpm : 650  
Aneroid pressure  
hPa : -

Del. quantity  
cm<sup>3</sup>/1000 strokes : 196.0  
Tolerance  
cm<sup>3</sup>/1000 strokes : ± 1.0  
Check tolerance  
cm<sup>3</sup>/1000S. : ± 4.0

L09

Speed  
Tolerance  
cm<sup>3</sup>/1000 strokes : 6.0  
Check tolerance  
cm<sup>3</sup>/1000S. : 10.0

RATED SPEED

control lever  
position degree : 83.0  
tolerance degree : ± 4.0

control lever  
position degree : 118.0  
tolerance degree : ± 4.0

rack travel mm : 10.40  
Rated speed rpm : 945  
Tolerance 1/min : ± 5

rack travel mm : 4.00  
Rated speed rpm : 1055  
Tolerance 1/min : ± 15

rack travel mm : 0.50  
Tolerance mm : ± 0.50  
Rated speed rpm : 1150

LOW IDLE

control lever  
position degree : 65.0  
tolerance degree : ± 4.0

control lever  
position degree : 30.0  
tolerance degree : ± 4.0

Testing:

Rated speed rpm : 250  
rack travel mm : 6.90  
Tolerance mm : ± 0.10

Rated speed rpm : 150

CRT mm min. : > 7.80

CONTINUOUS-ACTION CONTROL

Rated speed rpm : 350

TORQUE CONTROL



Rated speed rpm : 650  
rack travel mm : 11.40  
Tolerance mm : ± 0.05

Rated speed rpm : 900  
rack travel mm : 11.40  
Tolerance mm : ± 0.10

---

START CUT-OUT

Rated speed rpm : > 100  
Check  
speed 1/min : > 80  
Rated speed rpm : < 170  
Check  
speed 1/min : < 190

---

FUEL DELIVERY CHARACTERISTICS

Aneroid pressure  
hPa : -  
Rated speed rpm : 900  
Del. quantity  
cm<sup>3</sup>/1000 strokes : 184.0  
Tolerance  
cm<sup>3</sup>/1000 strokes : ± 3.0  
Check tolerance  
cm<sup>3</sup>/1000S. : ± 6.0

---

BREAKAWAY

Rack travel in mm : 10.40  
Rated speed rpm : 945  
Tolerance 1/min : ± 5

---

STARTING FUEL DELIVERY

Rated speed rpm : 100  
Del. quantity  
cm<sup>3</sup>/1000 strokes : 310.0  
Tolerance  
cm<sup>3</sup>/1000 strokes : ± 20.0  
Check tolerance  
cm<sup>3</sup>/1000S. : ± 24.0

---

LOW IDLE

Rated speed rpm : 250  
rack travel mm : 6.90  
Tolerance mm : ± 0.30

Del. quantity  
cm<sup>3</sup>/1000 strokes : 25.0  
Tolerance  
cm<sup>3</sup>/1000 strokes : ± 3.0  
Check tolerance  
cm<sup>3</sup>/1000S. : ± 6.0  
Spreed  
Tolerance  
cm<sup>3</sup>/1000 strokes : 8.0  
Check tolerance  
cm<sup>3</sup>/1000S. : 12.0

BOSCH INJ. PUMP TEST SPECIFICATIONS

Note remarks

Refer to Service Info for test and adjustment instructions.  
See microcard(s) W400/...

Edition : 05.05.94  
Test oil : ISO 4113  
  
Combination No. : 0401846926AA  
  
Injection pump  
Pump designation : PE6P110A720RS3040-2  
EP type number : 0411816774  
  
Governor  
Governor design. : RQV200...1100PA555  
: -4  
Governor no. : 0421813878

Cust. part No. :

Customer-spec. information  
Customer : SCANIA  
Motor : DS11

TEST BENCH REQUIREMENTS

Test oil inlet  
temp. °C : 40  
Tolerance °C : ± 2.0  
  
Overflow valve : 1417413025  
  
Inlet press. bar : 2.5  
Tolerance bar : ± 0.1  
  
Test nozzle holder  
assembly : 1688901104  
  
Opening pressure  
bar : 251.5  
Tolerance bar : ± 1.5  
  
Test lines : 1680750008  
  
Outside diameter : 6.0

x inside diameter : 2.0  
x length mm : 600

REMARKS

Check and set without ROBO diaphragm

(A) INJECTION PUMP SETTING VALUES  
Set equal delivery quant.  
per values \_\_\_\_\_

BEGINNING OF DELIVERY

Test pressure bar : 31.0  
Tolerance bar : ± 1.0  
  
Prestroke mm : 3.35  
Tolerance mm : ± 0.05  
  
test only : ± 0.10  
  
Rack travel in mm : 10.50  
Tolerance mm : ± 1.50  
  
Firing order : 1- 5- 3- 6- 2-  
: 4

Phasing : 0-60-120-180-240  
: -300  
Tolerance : ± 0.30  
Check  
tolerance °NW : ± 0.75

BEGINNING OF DELIVERY DIFFERENCE

Time to cyl. no. : 1

BASIC SETTING

Rated speed rpm : 700  
  
Rack travel in mm : 12.95  
Tolerance mm : ± 0.05

Del. quantity  
cm<sup>3</sup>/1000 strokes : 172.0

---

Tolerance  
cm<sup>3</sup>/1000 strokes : ± 1.0

---

Check tolerance  
cm<sup>3</sup>/1000S. : ± 4.0

---

Spread  
Tolerance  
cm<sup>3</sup>/1000 strokes : 8.0

---

Check tolerance  
cm<sup>3</sup>/1000S. : 12.0

2nd speed rpm : 250

Rack travel in mm : 7.20  
Tolerance mm : ± 0.30

Del. quantity  
cm<sup>3</sup>/1000 strokes : 14.0  
Tolerance  
cm<sup>3</sup>/1000 strokes : ± 3.0  
Check tolerance  
cm<sup>3</sup>/1000S. : ± 6.0

Spread  
Tolerance  
cm<sup>3</sup>/1000 strokes : 4.0  
Check tolerance  
cm<sup>3</sup>/1000S. : 8.0

(B) SETTING OF INJECTION PUMP  
WITH GOVERNOR

GUIDE SLEEVE POSITION

control lever  
position degree : - 1  
Rated speed rpm : 1070

Rack travel in mm : 16.50  
Tolerance mm : ± 1.30

FULL LOAD DELIVERY AT FULL LOAD STOP

Rated speed rpm : 700  
Aneroid pressure  
hPa : -

Del. quantity  
cm<sup>3</sup>/1000 strokes : 172.0  
Tolerance  
cm<sup>3</sup>/1000 strokes : ± 1.0  
Check tolerance  
cm<sup>3</sup>/1000S. : ± 4.0

Spread  
Tolerance  
cm<sup>3</sup>/1000 strokes : 8.0  
Check tolerance  
cm<sup>3</sup>/1000S. : 12.0

RATED SPEED

control lever  
position degree : 61.0  
tolerance degree : ± 4.0

control lever  
position degree : 116.0  
tolerance degree : ± 4.0

rack travel mm : 11.90  
Rated speed rpm : 1145  
Tolerance 1/min : ± 5

rack travel mm : 4.00  
Rated speed rpm : 1290  
Tolerance 1/min : ± 15

rack travel mm : 0.50  
Tolerance mm : ± 0.50  
Rated speed rpm : 1400

LOW IDLE

control lever  
position degree : 69.0  
tolerance degree : ± 4.0

control lever  
position degree : 16.0  
tolerance degree : ± 4.0

Testing:

Rated speed rpm : 250  
rack travel mm : 4.50  
Tolerance mm : ± 0.10

Rated speed rpm : 150

CRT mm min. : > 5.50

CONTINUOUS-ACTION CONTROL

Rated speed rpm : 250

TORQUE CONTROL

Rated speed rpm : 700  
rack travel mm : 12.95  
Tolerance mm : ± 0.05

Rated speed rpm : 1000  
rack travel mm : 12.95  
Tolerance mm : ± 0.05

---

ANEROID/ALTITUDE  
COMPENSATOR TEST

SETTING

Rated speed rpm : 500  
Pressure hPa : 1500  
rack travel mm : 12.95  
Tolerance mm : ± 0.05

MEASUREMENT

Pressure hPa : -  
Rated speed rpm : 500  
rack travel mm : 10.60  
Tolerance mm : ± 0.20

Rated speed rpm : 500

Pressure hPa : -  
Tolerance mm : ± 0.05

Pressure hPa : -  
Tolerance mm : ± 0.10

---

FUEL DELIVERY CHARACTERISTICS

Aneroid pressure  
hPa : -  
Rated speed rpm : 1000  
Del. quantity  
cm<sup>3</sup>/1000 strokes : 164.0  
Tolerance  
cm<sup>3</sup>/1000 strokes : ± 4.0  
Check tolerance  
cm<sup>3</sup>/1000S. : ± 6.0

Aneroid pressure  
hPa : -  
Rated speed rpm : 500  
Del. quantity  
cm<sup>3</sup>/1000 strokes : 114.0  
Tolerance  
cm<sup>3</sup>/1000 strokes : ± 1.0  
Check tolerance  
cm<sup>3</sup>/1000S. : ± 4.0

---

BREAKAWAY

Rack travel in mm : 11.90  
Rated speed rpm : 1145  
Tolerance 1/min : ± 5

---

STARTING FUEL DELIVERY

Rated speed rpm : 100  
rack travel mm : 20.50  
Tolerance mm : ± 0.50  
Del. quantity  
cm<sup>3</sup>/1000 strokes : 265.0  
Tolerance  
cm<sup>3</sup>/1000 strokes : ± 20.0  
Check tolerance  
cm<sup>3</sup>/1000S. : ± 24.0

---

LOW IDLE

Rated speed rpm : 250  
rack travel mm : 7.20  
Tolerance mm : ± 0.30  
Del. quantity  
cm<sup>3</sup>/1000 strokes : 14.0  
Tolerance  
cm<sup>3</sup>/1000 strokes : ± 3.0  
Check tolerance  
cm<sup>3</sup>/1000S. : ± 6.0  
Speed  
Tolerance  
cm<sup>3</sup>/1000 strokes : 4.0  
Check tolerance  
cm<sup>3</sup>/1000S. : 8.0

BOSCH INJ. PUMP TEST SPECIFICATIONS

Note remarks

Refer to Service Info for test and adjustment instructions.  
See microcard(s) W400/...

Edition : 17.06.94  
Test oil : ISO 4113

Combination No. : 0401846987

Injection pump  
Pump designation : PE6P110A72ORS3289-1  
EP type number : 0411816795

Governor  
Governor design. : RQ750PA1153-1  
Governor no. : 0421801725

Cust. part No. : 1363596

Customer-spec. information  
Customer : SCANIA  
Motor : DS1193A

TEST BENCH REQUIREMENTS

Test oil inlet  
temp. °C : 40  
Tolerance °C : ± 2.0

Overflow valve : 1417413025

Inlet press. bar : 2.5  
Tolerance bar : ± 0.1

Tolerance l/h : ± 10.0

Test nozzle holde  
assembly : 1688901104

Opening pressure  
bar : 251.5  
Tolerance bar : ± 1.5

Lube oil : 1409918004

Test lines : 1680750008

L14

Outside diameter : 6.0  
x inside diameter : 2.0  
x length mm : 600

REMARKS

Check and set without ROBO diaphragm

(A) INJECTION PUMP SETTING VALUES  
Set equal delivery quant.  
per values \_\_\_\_\_

BEGINNING OF DELIVERY

Test pressure bar : 31.0  
Tolerance bar : ± 1.0

Prestroke mm : 3.35  
Tolerance mm : ± 0.05

test only : ± 0.10

Rack travel in mm : 10.50  
Tolerance mm : ± 1.50

Firing order : 1- 5- 3- 6- 2-  
: 4

Phasing : 0-60-120-180-240  
: -300  
Tolerance : ± 0.30  
Check  
tolerance °NW : ± 0.75

BEGINNING OF DELIVERY DIFFERENCE

Time to cyl. no. : 1

BASIC SETTING

Rated speed rpm : 700

Rack travel in mm : 12.35  
Tolerance mm : ± 0.05

<hr/>	
Del. quantity	
cm <sup>3</sup> /1000 strokes :	172.0
<hr/>	
Tolerance	
cm <sup>3</sup> /1000 strokes :	+ 1.0
<hr/>	
Check tolerance	
cm <sup>3</sup> /1000S. :	+ 4.0
<hr/>	
Spreed	
Tolerance	
cm <sup>3</sup> /1000 strokes :	8.0
<hr/>	
Check tolerance	
cm <sup>3</sup> /1000S. :	12.0

(B) SETTING OF INJECTION PUMP  
WITH GOVERNOR

GUIDE SLEEVE TRAVEL

Rated speed rpm :	759
guide sleeve	
travel mm :	6.81
Tolerance mm :	+ 0.10

Rated speed rpm :	520
guide sleeve	
travel mm :	-5.40
Tolerance mm :	+ 0.10

Rated speed rpm :	850
guide sleeve	
travel mm :	17.21
Tolerance mm :	+ 0.10

Rated speed rpm :	793
guide sleeve	
travel mm :	10.00
Tolerance mm :	+ 0.10

Rated speed rpm :	850
guide sleeve	
travel mm :	11.50
Tolerance mm :	+ 0.50

FULL LOAD DELIVERY AT FULL LOAD STOP

Rated speed rpm :	700
Aneroid pressure	
hPa :	1500
Del. quantity	
cm <sup>3</sup> /1000 strokes :	172.0
Tolerance	
cm <sup>3</sup> /1000 strokes :	+ 1.0

Check tolerance	
cm <sup>3</sup> /1000S. :	+ 4.0
Spreed	
Tolerance	
cm <sup>3</sup> /1000 strokes :	8.0
Check tolerance	
cm <sup>3</sup> /1000S. :	12.0

RATED SPEED

control lever	
position degree :	36.0
tolerance degree :	+ 4.0

control lever	
position degree :	98.0
tolerance degree :	+ 4.0

TORQUE CONTROL

Rated speed rpm :	700
rack travel mm :	12.35
Tolerance mm :	+ 0.05

ANEROID/ALTITUDE  
COMPENSATOR TEST

SETTING

Rated speed rpm :	500
Pressure hPa :	1500
rack travel mm :	12.35
Tolerance mm :	+ 0.05

MEASUREMENT

Pressure hPa :	-
Rated speed rpm :	500
rack travel mm :	10.00
Tolerance mm :	+ 0.20

Rated speed rpm :	500
-------------------	-----

Pressure hPa :	200
rack travel mm :	11.75
Tolerance mm :	+ 0.05

Pressure hPa :	140
rack travel mm :	10.80
Tolerance mm :	+ 0.15

FUEL DELIVERY CHARACTERISTICS

Aneroid pressure  
hPa : -  
Rated speed rpm : 500  
Del. quantity  
cm<sup>3</sup>/1000 strokes : 114.0  
Tolerance  
cm<sup>3</sup>/1000 strokes : ± 1.0  
Check tolerance  
cm<sup>3</sup>/1000S. : ± 4.0

Aneroid pressure  
hPa : -  
Del. quantity  
cm<sup>3</sup>/1000 strokes : 19.0  
Tolerance  
cm<sup>3</sup>/1000 strokes : ± 4.0  
Check tolerance  
cm<sup>3</sup>/1000S. : ± 6.0  
Tolerance  
cm<sup>3</sup>/1000 strokes : 5.0  
Check tolerance  
cm<sup>3</sup>/1000S. : 9.0

---

STARTING FUEL DELIVERY

Rated speed rpm : 100  
rack travel mm : 20.50  
Tolerance mm : ± 0.50  
Del. quantity  
cm<sup>3</sup>/1000 strokes : 265.0  
Tolerance  
cm<sup>3</sup>/1000 strokes : ± 20.0  
Check tolerance  
cm<sup>3</sup>/1000S. : ± 24.0

BOSCH INJ. PUMP TEST SPECIFICATIONS

Note remarks

Refer to Service Info for test and adjustment instructions.  
See microcard(s) W400/...

Edition : 04.01.95  
Test oil : ISO 4113  
Combination No. : 0402046856  
Injection pump  
Pump designation : PE6P110A32ORS3329Z  
EP type number : 0412016744  
Governor  
Governor design. : RQV325...1300PA1119  
Governor no. : 0421814083

Cust. part No. : 1284417/3

Customer-spec. information  
Customer : DAF  
Motor : NS133M  
Power KW : 133.0

TEST BENCH REQUIREMENTS

Test oil inlet  
temp. °C : 40  
Tolerance °C : ± 2.0

Overflow valve : 1417413025

Inlet press. bar : 1.5  
Tolerance bar : ± 0.1

Test nozzle holder  
assembly : 1688901101

Opening pressure  
bar : 208.5  
Tolerance bar : ± 1.5

Test lines : 1680750008

Outside diameter : 6.0

x inside diameter : 2.0  
x length mm : 600

REMARKS

(A) INJECTION PUMP SETTING VALUES  
Set equal delivery quant.  
per values \_\_\_\_\_

BEGINNING OF DELIVERY

Test pressure bar : 31.0  
Tolerance bar : ± 1.0

Prestroke mm : 4.85  
Tolerance mm : ± 0.05

test only : ± 0.10

Rack travel in mm : 20.50  
Tolerance mm : ± 0.50

Firing order : 1- 5- 3- 6- 2-  
: 4

Phasing : 0-60-120-180-240  
: -300  
Tolerance : ± 0.30  
Check  
tolerance °NW : ± 0.75

BEGINNING OF DELIVERY DIFFERENCE

Time to cyl. no. : 1

BASIC SETTING

Rated speed rpm : 1000

Rack travel in mm : 11.85  
Tolerance mm : ± 0.05

Del. quantity  
cm<sup>3</sup>/1000 strokes : 146.0



Tolerance  
cm<sup>3</sup>/1000 strokes : +- 1.0

---

Check tolerance  
cm<sup>3</sup>/1000S. : +- 4.0

---

Spreed  
Tolerance  
cm<sup>3</sup>/1000 strokes : 4.0

---

Check tolerance  
cm<sup>3</sup>/1000S. : 7.5

2nd speed rpm : 325

Rack travel in mm : 5.20  
Tolerance mm : +- 0.10

Del. quantity  
cm<sup>3</sup>/1000 strokes : 26.0

Tolerance  
cm<sup>3</sup>/1000 strokes : +- 2.5

Check tolerance  
cm<sup>3</sup>/1000S. : +- 5.0

Spreed  
Tolerance

cm<sup>3</sup>/1000 strokes : 12.0

Check tolerance  
cm<sup>3</sup>/1000S. : 15.0

(B) SETTING OF INJECTION PUMP  
WITH GOVERNOR

---

GUIDE SLEEVE TRAVEL

Rated speed rpm : 325  
guide sleeve  
travel mm : 1.33  
Tolerance mm : +- 0.15

Rated speed rpm : 1353  
guide sleeve  
travel mm : 8.29  
Tolerance mm : +- 0.20

Rated speed rpm : 900  
guide sleeve  
travel mm : 4.92  
Tolerance mm : +- 0.25

Rated speed rpm : 405  
guide sleeve  
travel mm : 2.07  
Tolerance mm : +- 0.25

Rated speed rpm : 455  
guide sleeve  
travel mm : 2.52  
Tolerance mm : +- 0.25

Rated speed rpm : 530  
guide sleeve  
travel mm : 2.93  
Tolerance mm : +- 0.25

Rated speed rpm : 1640  
guide sleeve  
travel mm : 11.50  
Tolerance mm : +- 0.50

---

GUIDE SLEEVE POSITION

control lever  
position degree : - 1  
Rated speed rpm : 1450

Rack travel in mm : 10.80  
Tolerance mm : +- 1.30

---

FULL LOAD DELIVERY AT FULL LOAD STOP

Rated speed rpm : 1000  
Aneroid pressure  
hPa : 1000  
Del. quantity  
cm<sup>3</sup>/1000 strokes : 146.0

Tolerance  
cm<sup>3</sup>/1000 strokes : +- 1.0  
Check tolerance  
cm<sup>3</sup>/1000S. : +- 4.0

Spreed  
Tolerance  
cm<sup>3</sup>/1000 strokes : 4.0  
Check tolerance  
cm<sup>3</sup>/1000S. : 7.5

---

RATED SPEED

control lever  
position degree : 122.0  
tolerance degree : +- 4.0

rack travel mm : 10.85  
Rated speed rpm : 1342  
Tolerance 1/min : +- 5

rack travel mm : 4.00  
Rated speed rpm : 1460  
Tolerance 1/min : +- 15

rack travel mm : 0.50  
Tolerance mm : +- 0.50  
Rated speed rpm : 1600

---

LOW IDLE

control lever  
position degree : 83.0  
tolerance degree : ± 4.0

Testing:

Rated speed rpm : 325  
rack travel mm : 4.50  
Tolerance mm : ± 0.10

Rated speed rpm : 225  
CRT mm min. : > 6.00

---

CONTINUOUS-ACTION CONTROL

Rated speed rpm : 375

---

TORQUE CONTROL

Rated speed rpm : 1000  
rack travel mm : 11.85  
Tolerance mm : ± 0.05

Rated speed rpm : 700  
rack travel mm : 11.85  
Tolerance mm : ± 0.05

Rated speed rpm : 1300  
rack travel mm : 11.85  
Tolerance mm : ± 0.05

---

ANEROID/ALTITUDE  
COMPENSATOR TEST

SETTING

Rated speed rpm : 600  
Pressure hPa : 1000  
rack travel mm : 11.85  
Tolerance mm : ± 0.05

MEASUREMENT

Pressure hPa : -  
Rated speed rpm : 600  
rack travel mm : 6.60  
Tolerance mm : ± 0.20

Rated speed rpm : 600

Pressure hPa : 310  
rack travel mm : 10.55  
Tolerance mm : ± 0.05

Pressure hPa : 130  
rack travel mm : 7.85  
Tolerance mm : ± 0.10

---

FUEL DELIVERY CHARACTERISTICS

Aneroid pressure  
hPa : 1000  
Rated speed rpm : 700  
Del. quantity  
cm<sup>3</sup>/1000 strokes : 145.0  
Tolerance  
cm<sup>3</sup>/1000 strokes : ± 2.0  
Check tolerance  
cm<sup>3</sup>/1000S. : ± 5.0

Aneroid pressure  
hPa : -  
Rated speed rpm : 600  
Del. quantity  
cm<sup>3</sup>/1000 strokes : 88.0  
Tolerance  
cm<sup>3</sup>/1000 strokes : ± 1.0  
Check tolerance  
cm<sup>3</sup>/1000S. : ± 3.5

---

BREAKAWAY

Rack travel in mm : 10.85  
Rated speed rpm : 1342  
Tolerance 1/min : ± 5

---

LOW IDLE

Rated speed rpm : 325  
rack travel mm : 5.20  
Tolerance mm : ± 0.10  
Del. quantity  
cm<sup>3</sup>/1000 strokes : 26.0  
Tolerance  
cm<sup>3</sup>/1000 strokes : ± 2.5  
Check tolerance  
cm<sup>3</sup>/1000S. : ± 5.0  
Speed  
Tolerance  
cm<sup>3</sup>/1000 strokes : 12.0

Check tolerance : 15.0  
cm<sup>3</sup>/1000S.



BOSCH INJ. PUMP TEST SPECIFICATIONS

Note remarks

Refer to Service Info for test and adjustment instructions.  
See microcard(s) W400/...

Edition : 04.07.94  
Test oil : ISO 4113  
  
Combination No. : 0402646604  
  
Injection pump  
Pump designation : PE6P120A720RS7188  
: -10  
EP type number : 0412626924  
  
Governor  
Governor design. : RQV350...1050PA795  
: -13  
Governor no. : 0421814017  
  
Cust. part No. : 1337549

Customer-spec. information  
Customer : SCANIA  
Motor : DS11 Allvarv

TEST BENCH REQUIREMENTS

Test oil inlet  
temp. °C : 40  
Tolerance °C : ± 2.0  
  
Overflow valve : 1417413025  
  
Inlet press. bar : 2.5  
Tolerance bar : ± 0.1  
  
Test nozzle holder  
assembly : 1688901104  
  
Opening pressure  
bar : 251.5  
Tolerance bar : ± 1.5  
  
Test lines : 1680750008  
  
Outside diameter : 6.0

x inside diameter : 2.0  
x length mm : 600

REMARKS

Check and set without ROBO diaphragm

(A) INJECTION PUMP SETTING VALUES  
Set equal delivery quant.  
per values \_\_\_\_\_

BEGINNING OF DELIVERY

Test pressure bar : 31.0  
Tolerance bar : ± 1.0

Prestroke mm : 4.45  
Tolerance mm : ± 0.05

test only : ± 0.10

Rack travel in mm : 10.50  
Tolerance mm : ± 1.50

Firing order : 1- 5- 3- 6- 2-  
: 4

Phasing : 0-60-120-180-240  
: -300

Tolerance : ± 0.30  
Check  
tolerance °NW : ± 0.75

BEGINNING OF DELIVERY DIFFERENCE

Time to cyl. no. : 1

BASIC SETTING

Rated speed rpm : 700

Rack travel in mm : 13.35  
Tolerance mm : ± 0.05

Del. quantity  
cm<sup>3</sup>/1000 strokes : 236.0

---

Tolerance  
cm<sup>3</sup>/1000 strokes : ± 1.0

---

Check tolerance  
cm<sup>3</sup>/1000S. : ± 4.0

---

Spreed  
Tolerance  
cm<sup>3</sup>/1000 strokes : 8.0

---

Check tolerance  
cm<sup>3</sup>/1000S. : 12.0

2nd speed rpm : 350

Rack travel in mm : 4.70  
Tolerance mm : ± 0.30

Del. quantity  
cm<sup>3</sup>/1000 strokes : 19.0  
Tolerance  
cm<sup>3</sup>/1000 strokes : ± 3.0  
Check tolerance  
cm<sup>3</sup>/1000S. : ± 6.0

Spreed  
Tolerance  
cm<sup>3</sup>/1000 strokes : 4.0  
Check tolerance  
cm<sup>3</sup>/1000S. : 8.0

(B) SETTING OF INJECTION PUMP  
WITH GOVERNOR

GUIDE SLEEVE POSITION

control lever  
position degree : - 1  
Rated speed rpm : 1280

Rack travel in mm : 12.00  
Tolerance mm : ± 1.00

FULL LOAD DELIVERY AT FULL LOAD STOP

Rated speed rpm : 700  
Aneroid pressure  
hPa : -  
Del. quantity  
cm<sup>3</sup>/1000 strokes : 236.0  
Tolerance  
cm<sup>3</sup>/1000 strokes : ± 1.0  
Check tolerance  
cm<sup>3</sup>/1000S. : ± 4.0

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Spreed  
Tolerance  
cm<sup>3</sup>/1000 strokes : 8.0  
Check tolerance  
cm<sup>3</sup>/1000S. : 12.0

RATED SPEED

control lever  
position degree : 45.0  
tolerance degree : ± 4.0

control lever  
position degree : 102.0  
tolerance degree : ± 4.0

rack travel mm : 12.30  
Rated speed rpm : 1095  
Tolerance 1/min : ± 5

rack travel mm : 4.00  
Rated speed rpm : 1230  
Tolerance 1/min : ± 15

rack travel mm : 0.50  
Tolerance mm : ± 0.50  
Rated speed rpm : 1350

LOW IDLE

control lever  
position degree : 72.0  
tolerance degree : ± 4.0

control lever  
position degree : 15.0  
tolerance degree : ± 4.0

Testing:

Rated speed rpm : 350  
rack travel mm : 4.70  
Tolerance mm : ± 0.10

Rated speed rpm : 250

CRT mm min. : > 8.00

CONTINUOUS-ACTION CONTROL

Rated speed rpm : 300

TORQUE CONTROL

Rated speed rpm : 700  
rack travel mm : 13.35  
Tolerance mm : ± 0.05

Rated speed rpm : 1050  
rack travel mm : 13.35  
Tolerance mm : ± 0.05

---

ANEROID/ALTITUDE  
COMPENSATOR TEST

SETTING

Rated speed rpm : 500  
Pressure hPa : 1500  
rack travel mm : 13.35  
Tolerance mm : ± 0.05

MEASUREMENT

Pressure hPa : -  
Rated speed rpm : 500  
rack travel mm : 10.40  
Tolerance mm : ± 0.20

Rated speed rpm : 500

Pressure hPa : 440  
rack travel mm : 12.05  
Tolerance mm : ± 0.05

Pressure hPa : 270  
rack travel mm : 11.00  
Tolerance mm : ± 0.15

---

FUEL DELIVERY CHARACTERISTICS

Aneroid pressure  
hPa : -  
Rated speed rpm : 1050  
Del. quantity  
cm<sup>3</sup>/1000 strokes : 215.0  
Tolerance  
cm<sup>3</sup>/1000 strokes : ± 4.0  
Check tolerance  
cm<sup>3</sup>/1000S. : ± 6.0

Aneroid pressure  
hPa : -  
Rated speed rpm : 500  
Del. quantity  
cm<sup>3</sup>/1000 strokes : 153.0  
Tolerance  
cm<sup>3</sup>/1000 strokes : ± 1.0  
Check tolerance  
cm<sup>3</sup>/1000S. : ± 4.0

---

BREAKAWAY

Rack travel in mm : 12.30  
Rated speed rpm : 1095  
Tolerance 1/min : ± 5

---

STARTING FUEL DELIVERY

Rated speed rpm : 100  
rack travel mm : 10.40  
Tolerance mm : ± 0.20  
Del. quantity  
cm<sup>3</sup>/1000 strokes : 170.0  
Tolerance  
cm<sup>3</sup>/1000 strokes : ± 20.0  
Check tolerance  
cm<sup>3</sup>/1000S. : ± 24.0

---

LOW IDLE

Rated speed rpm : 350  
rack travel mm : 4.70  
Tolerance mm : ± 0.30  
Del. quantity  
cm<sup>3</sup>/1000 strokes : 19.0  
Tolerance  
cm<sup>3</sup>/1000 strokes : ± 3.0  
Check tolerance  
cm<sup>3</sup>/1000S. : ± 6.0  
Speed  
Tolerance  
cm<sup>3</sup>/1000 strokes : 4.0  
Check tolerance  
cm<sup>3</sup>/1000S. : 8.0



Rack travel in mm :	13.85
Tolerance mm :	+ 0.05
<hr/>	
Del. quantity cm <sup>3</sup> /1000 strokes :	252.0
<hr/>	
Tolerance cm <sup>3</sup> /1000 strokes :	+ 1.0
<hr/>	
Check tolerance cm <sup>3</sup> /1000S. :	+ 4.0
<hr/>	
Spreed Tolerance cm <sup>3</sup> /1000 strokes :	8.0
<hr/>	
Check tolerance cm <sup>3</sup> /1000S. :	12.0
<hr/>	
2nd speed rpm :	250
<hr/>	
Rack travel in mm :	4.70
Tolerance mm :	+ 0.30
Del. quantity cm <sup>3</sup> /1000 strokes :	17.0
Tolerance cm <sup>3</sup> /1000 strokes :	+ 3.0
Check tolerance cm <sup>3</sup> /1000S. :	+ 6.0
Spreed Tolerance cm <sup>3</sup> /1000 strokes :	4.0
Check tolerance cm <sup>3</sup> /1000S. :	8.0

(B) SETTING OF INJECTION PUMP  
WITH GOVERNOR

GUIDE SLEEVE POSITION

control lever position degree :	- 1
Rated speed rpm :	1150
<hr/>	
Rack travel in mm :	9.50
Tolerance mm :	+ 2.50

FULL LOAD DELIVERY AT FULL LOAD STOP

Rated speed rpm :	700
Aneroid pressure hPa :	-
Del. quantity cm <sup>3</sup> /1000 strokes :	252.0

Tolerance cm <sup>3</sup> /1000 strokes :	+ 1.0
Check tolerance cm <sup>3</sup> /1000S. :	+ 4.0
Spreed Tolerance cm <sup>3</sup> /1000 strokes :	8.0
Check tolerance cm <sup>3</sup> /1000S. :	12.0

RATED SPEED

control lever position degree :	62.0
tolerance degree :	+ 4.0

control lever position degree :	116.0
tolerance degree :	+ 4.0

rack travel mm :	12.80
Rated speed rpm :	995
Tolerance 1/min :	+ 5

rack travel mm :	4.00
Rated speed rpm :	1125
Tolerance 1/min :	+ 15

rack travel mm :	0.50
Tolerance mm :	+ 0.50
Rated speed rpm :	1250

LOW IDLE

control lever position degree :	64.0
tolerance degree :	+ 4.0

control lever position degree :	10.0
tolerance degree :	+ 4.0

Testing:

Rated speed rpm :	250
rack travel mm :	4.70
Tolerance mm :	+ 0.10

Rated speed rpm :	150
-------------------	-----

CRT mm min. :	> 6.00
---------------	--------

CONTINUOUS-ACTION CONTROL

Rated speed rpm :	270
-------------------	-----



---

TORQUE CONTROL

Rated speed rpm : 700  
rack travel mm : 13.85  
Tolerance mm :  $\pm$  0.05

Rated speed rpm : 950  
rack travel mm : 13.85  
Tolerance mm :  $\pm$  0.05

---

ANEROID/ALTITUDE  
COMPENSATOR TEST

SETTING

Rated speed rpm : 500  
Pressure hPa : 1500  
rack travel mm : 13.85  
Tolerance mm :  $\pm$  0.05

MEASUREMENT

Pressure hPa : -  
Rated speed rpm : 500  
rack travel mm : 9.30  
Tolerance mm :  $\pm$  0.20

Rated speed rpm : 500

Pressure hPa : 375  
rack travel mm : 12.05  
Tolerance mm :  $\pm$  0.05

Pressure hPa : 185  
rack travel mm : 11.00  
Tolerance mm :  $\pm$  0.15

---

FUEL DELIVERY CHARACTERISTICS

Aneroid pressure  
hPa : -  
Rated speed rpm : 950  
Del. quantity  
cm<sup>3</sup>/1000 strokes : 237.0  
Tolerance  
cm<sup>3</sup>/1000 strokes :  $\pm$  4.0  
Check tolerance  
cm<sup>3</sup>/1000S. :  $\pm$  6.0

Aneroid pressure  
hPa : -  
Rated speed rpm : 500  
Del. quantity  
cm<sup>3</sup>/1000 strokes : 115.0

Tolerance  
cm<sup>3</sup>/1000 strokes :  $\pm$  1.0  
Check tolerance  
cm<sup>3</sup>/1000S. :  $\pm$  4.0

---

BREAKAWAY

Rack travel in mm : 12.80  
Rated speed rpm : 995  
Tolerance 1/min :  $\pm$  5

---

STARTING FUEL DELIVERY

Rated speed rpm : 100  
rack travel mm : 9.30  
Tolerance mm :  $\pm$  0.20  
Del. quantity  
cm<sup>3</sup>/1000 strokes : 125.0  
Tolerance  
cm<sup>3</sup>/1000 strokes :  $\pm$  20.0  
Check tolerance  
cm<sup>3</sup>/1000S. :  $\pm$  24.0

---

LOW IDLE

Rated speed rpm : 250  
rack travel mm : 4.70  
Tolerance mm :  $\pm$  0.30  
Del. quantity  
cm<sup>3</sup>/1000 strokes : 17.0  
Tolerance  
cm<sup>3</sup>/1000 strokes :  $\pm$  3.0  
Check tolerance  
cm<sup>3</sup>/1000S. :  $\pm$  6.0  
Spreed  
Tolerance  
cm<sup>3</sup>/1000 strokes : 4.0  
Check tolerance  
cm<sup>3</sup>/1000S. : 8.0

BOSCH INJ. PUMP TEST SPECIFICATIONS

Note remarks

Refer to Service Info for test and adjustment instructions.  
See microcard(s) W400/...

Edition : 19.01.95  
Test oil : ISO 4113  
  
Combination No. : 0402646748  
  
Injection pump  
Pump designation : PE6P120A320LS7834  
                  : -10  
EP type number : 0412626853  
  
Governor  
Governor design. : RQ300/1050PA1030-27  
Governor no. : 0421801777

Cust. part No. : 0260744202

Customer-spec. information  
Customer : MB-NFZ  
Motor : OM441 LA  
Power KW : 230.0

TEST BENCH REQUIREMENTS

Test oil inlet  
temp. °C : 40  
Tolerance °C : ± 2.0

Overflow valve : 1417413047

Inlet press. bar : 1.5  
Tolerance bar : ± 0.1

Tolerance l/h : ± 10.0

Test nozzle holde  
assembly : 1688901105

Opening pressure  
Tolerance bar : ± 1.5

Lube oil : 1409918004

Test lines : 1680750075

Outside diameter : 8.0

x inside diameter : 3.0  
x length mm : 1000

REMARKS

(A) INJECTION PUMP SETTING VALUES  
Set equal delivery quant.  
per values \_\_\_\_\_

BEGINNING OF DELIVERY

Test pressure bar : 31.0  
Tolerance bar : ± 1.0

Prestroke mm : 5.25  
Tolerance mm : ± 0.05

test only : ± 0.10

Rack travel in mm : 20.50  
Tolerance mm : ± 0.50

Firing order : 6- 3- 5- 2- 4-  
                  : 1-

Phasing : 0-60-120-180-240  
          : -300-360  
Tolerance : ± 0.30  
Check  
tolerance °NW : ± 0.75

BEGINNING OF DELIVERY DIFFERENCE

Time to cyl. no. : 6

BASIC SETTING

Rated speed rpm : 550

Rack travel in mm : 14.80  
Tolerance mm : +- 0.05

---

Del. quantity  
cm<sup>3</sup>/1000 strokes : 230.0

---

Tolerance  
cm<sup>3</sup>/1000 strokes : +- 1.0

---

Check tolerance  
cm<sup>3</sup>/1000S. : +- 4.0

---

Spreed  
Tolerance  
cm<sup>3</sup>/1000 strokes : 5.0

---

Check tolerance  
cm<sup>3</sup>/1000S. : 9.0

2nd speed rpm : 300

Rack travel in mm : 6.30  
Tolerance mm : +- 0.30  
Del. quantity  
cm<sup>3</sup>/1000 strokes : 13.0  
Tolerance  
cm<sup>3</sup>/1000 strokes : +- 3.0  
Check tolerance  
cm<sup>3</sup>/1000S. : +- 6.0  
Spreed  
Tolerance  
cm<sup>3</sup>/1000 strokes : 6.0  
Check tolerance  
cm<sup>3</sup>/1000S. : 10.0

(B) SETTING OF INJECTION PUMP WITH GOVERNOR

GUIDE SLEEVE TRAVEL

Rated speed rpm : 300  
guide sleeve  
travel mm : 1.82  
Tolerance mm : +- 0.10

Rated speed rpm : 1104  
guide sleeve  
travel mm : 6.68  
Tolerance mm : +- 0.10

Rated speed rpm : 1050  
guide sleeve  
travel mm : 6.35  
Tolerance mm : +- 0.10

Rated speed rpm : 832

guide sleeve  
travel mm : 6.09  
Tolerance mm : +- 0.10

Rated speed rpm : 421  
guide sleeve  
travel mm : 4.03  
Tolerance mm : +- 0.10

Rated speed rpm : 550  
guide sleeve  
travel mm : 6.00  
Tolerance mm : +- 0.10

Rated speed rpm : 1270  
guide sleeve  
travel mm : 11.50  
Tolerance mm : +- 0.50

Rated speed rpm : 893  
guide sleeve  
travel mm : 6.26  
Tolerance mm : +- 0.10

GUIDE SLEEVE POSITION

Rated speed rpm : 600

Rack travel in mm : 20.00  
Tolerance mm : +- 0.80

FULL LOAD DELIVERY AT FULL LOAD STOP

Rated speed rpm : 550  
Aneroid pressure  
hPa : 1000  
Del. quantity  
cm<sup>3</sup>/1000 strokes : 230.0  
Tolerance  
cm<sup>3</sup>/1000 strokes : +- 1.0  
Check tolerance  
cm<sup>3</sup>/1000S. : +- 4.0  
Spreed  
Tolerance  
cm<sup>3</sup>/1000 strokes : 5.0  
Check tolerance  
cm<sup>3</sup>/1000S. : 9.0

RATED SPEED

control lever  
position degree : 99.0  
tolerance degree : +- 4.0

rack travel mm : 13.80  
Rated speed rpm : 1098

Tolerance 1/min : +- 8  
 rack travel mm : 4.00  
 Rated speed rpm : 1200  
 Tolerance 1/min : +- 15  
 rack travel mm : 0.75  
 Tolerance mm : +- 0.75  
 Rated speed rpm : 1300

---

LOW IDLE

control lever  
 position degree : 72.0  
 tolerance degree : +- 4.0

Testing:

Rated speed rpm : 300  
 rack travel mm : 5.20  
 Tolerance mm : +- 0.10

rack travel mm : 2.00  
 Rated speed rpm : 405  
 Tolerance 1/min : +- 20

Rated speed rpm : 200

CRT mm min. : > 6.80

---

TORQUE CONTROL

Rated speed rpm : 550  
 rack travel mm : 14.80  
 Tolerance mm : +- 0.05

Rated speed rpm : 1050  
 rack travel mm : 14.80  
 Tolerance mm : +- 0.10

---

ANEROID/ALTITUDE  
 COMPENSATOR TEST

SETTING

Rated speed rpm : 400  
 Pressure hPa : 1000  
 rack travel mm : 14.80  
 Tolerance mm : +- 0.05

MEASUREMENT

Pressure hPa : -  
 Rated speed rpm : 400  
 rack travel mm : 11.30

Tolerance mm : +- 0.15  
 Rated speed rpm : 400  
 Pressure hPa : 400  
 rack travel mm : 13.35  
 Tolerance mm : +- 0.20  
 Pressure hPa : 540  
 rack travel mm : 14.20  
 Tolerance mm : +- 0.20

---

START CUT-OUT

Rated speed rpm : > 100  
 Check  
 speed 1/min : > 80  
 Rated speed rpm : < 220  
 Check  
 speed 1/min : < 240

---

FUEL DELIVERY CHARACTERISTICS

Aneroid pressure  
 hPa : 1000  
 Rated speed rpm : 1050  
 Del. quantity  
 cm<sup>3</sup>/1000 strokes : 228.0  
 Tolerance  
 cm<sup>3</sup>/1000 strokes : +- 3.0  
 Check tolerance  
 cm<sup>3</sup>/1000S. : +- 6.0  
 Spreed  
 Tolerance  
 cm<sup>3</sup>/1000 strokes : 8.0  
 Check tolerance  
 cm<sup>3</sup>/1000S. : 12.0

Aneroid pressure  
 hPa : -  
 Rated speed rpm : 500  
 Del. quantity  
 cm<sup>3</sup>/1000 strokes : 138.0  
 Tolerance  
 cm<sup>3</sup>/1000 strokes : +- 1.0  
 Check tolerance  
 cm<sup>3</sup>/1000S. : +- 4.0  
 Spreed  
 Tolerance  
 cm<sup>3</sup>/1000 strokes : 8.0  
 Check tolerance  
 cm<sup>3</sup>/1000S. : 12.0

---

BREAKAWAY

Rack travel in mm : 13.80

Rated speed rpm : 1098  
Tolerance 1/min :  $\pm$  8

---

STARTING FUEL DELIVERY

Rated speed rpm : 100  
Del. quantity  
cm<sup>3</sup>/1000 strokes : 210.0  
Tolerance  
cm<sup>3</sup>/1000 strokes :  $\pm$  15.0  
Check tolerance  
cm<sup>3</sup>/1000S. :  $\pm$  19.0

---

LOW IDLE

Rated speed rpm : 300  
rack travel mm : 6.30  
Tolerance mm :  $\pm$  0.30  
Del. quantity  
cm<sup>3</sup>/1000 strokes : 13.0  
Tolerance  
cm<sup>3</sup>/1000 strokes :  $\pm$  3.0  
Check tolerance  
cm<sup>3</sup>/1000S. :  $\pm$  6.0  
Spreed  
Tolerance  
cm<sup>3</sup>/1000 strokes : 6.0  
Check tolerance  
cm<sup>3</sup>/1000S. : 10.0

BOSCH INJ. PUMP TEST SPECIFICATIONS

Note remarks

Refer to Service Info for test and adjustment instructions.  
See microcard(s) W400/...

Edition : 19.01.95  
Test oil : ISO 4113  
Combination No. : 0402646749  
Injection pump  
Pump designation : PE6P120A320LS7837  
                  : -10  
EP type number : 0412626855  
Governor  
Governor design. : RQ300/1050PA993-13  
Governor no. : 0421801779  
Cust. part No. : 0260744002

---

Customer-spec. information  
Customer : MB-NFZ  
Motor : OM441 LA  
Power KW : 250.0

---

TEST BENCH REQUIREMENTS

Test oil inlet  
temp. °C : 40  
Tolerance °C : +- 2.0  
Overflow valve : 1417413047  
Inlet press. bar : 1.5  
Tolerance bar : +- 0.1  
Tolerance l/h : +- 10.0  
Test nozzle holder  
assembly : 1688901105  
Opening pressure  
bar : 208.5  
Tolerance bar : +- 1.5  
Lube oil : 1409918004

Test lines : 1680750075  
Outside diameter : 8.0  
x inside diameter : 3.0  
x length mm : 1000

---

REMARKS

(A) INJECTION PUMP SETTING VALUES  
Set equal delivery quant.  
per values \_\_\_\_\_

---

BEGINNING OF DELIVERY

Test pressure bar : 31.0  
Tolerance bar : +- 1.0  
Prestroke mm : 5.25  
Tolerance mm : +- 0.05  
test only : +- 0.10  
Rack travel in mm : 20.50  
Tolerance mm : +- 0.50  
Firing order : 6- 3- 5- 2- 4-  
                  : 1-  
Phasing : 0-60-120-180-240  
          : -300-360  
Tolerance : +- 0.30  
Check  
tolerance °NW : +- 0.75

---

BEGINNING OF DELIVERY DIFFERENCE

Time to cyl. no. : 6

---

BASIC SETTING

Rated speed rpm : 550  
Rack travel in mm : 15.10

Tolerance mm :  $\pm$  0.05  


---

 Del. quantity  
 cm<sup>3</sup>/1000 strokes : 252.0  


---

 Tolerance  
 cm<sup>3</sup>/1000 strokes :  $\pm$  1.0  


---

 Check tolerance  
 cm<sup>3</sup>/1000S. :  $\pm$  4.0  


---

 Spread  
 Tolerance  
 cm<sup>3</sup>/1000 strokes : 5.0  


---

 Check tolerance  
 cm<sup>3</sup>/1000S. : 9.0  


---

 2nd speed rpm : 300  


---

 Rack travel in mm : 6.20  
 Tolerance mm :  $\pm$  0.30  
 Del. quantity  
 cm<sup>3</sup>/1000 strokes : 19.0  
 Tolerance  
 cm<sup>3</sup>/1000 strokes :  $\pm$  3.0  
 Check tolerance  
 cm<sup>3</sup>/1000S. :  $\pm$  6.0  
 Spread  
 Tolerance  
 cm<sup>3</sup>/1000 strokes : 6.0  
 Check tolerance  
 cm<sup>3</sup>/1000S. : 10.0

(B) SETTING OF INJECTION PUMP  
WITH GOVERNOR

GUIDE SLEEVE TRAVEL

Rated speed rpm : 300  
 guide sleeve  
 travel mm : 1.85  
 Tolerance mm :  $\pm$  0.10  


---

 Rated speed rpm : 1104  
 guide sleeve  
 travel mm : 6.34  
 Tolerance mm :  $\pm$  0.10  


---

 Rated speed rpm : 1050  
 guide sleeve  
 travel mm : 6.00  
 Tolerance mm :  $\pm$  0.10  


---

 Rated speed rpm : 413  
 guide sleeve  
 travel mm : 4.55  
 Tolerance mm :  $\pm$  0.10

Rated speed rpm : 510  
 guide sleeve  
 travel mm : 6.00  
 Tolerance mm :  $\pm$  0.10  


---

 Rated speed rpm : 1280  
 guide sleeve  
 travel mm : 11.50  
 Tolerance mm :  $\pm$  0.50

GUIDE SLEEVE POSITION

Rated speed rpm : 600  
 Rack travel in mm : 20.00  
 Tolerance mm :  $\pm$  0.80

FULL LOAD DELIVERY AT FULL LOAD STOP

Rated speed rpm : 550  
 Aneroid pressure  
 hPa : 1100  
 Del. quantity  
 cm<sup>3</sup>/1000 strokes : 252.0  
 Tolerance  
 cm<sup>3</sup>/1000 strokes :  $\pm$  1.0  
 Check tolerance  
 cm<sup>3</sup>/1000S. :  $\pm$  4.0  
 Spread  
 Tolerance  
 cm<sup>3</sup>/1000 strokes : 5.0  
 Check tolerance  
 cm<sup>3</sup>/1000S. : 9.0

RATED SPEED

control lever  
 position degree : 100.0  
 tolerance degree :  $\pm$  4.0  


---

 rack travel mm : 14.10  
 Rated speed rpm : 1098  
 Tolerance 1/min :  $\pm$  8  


---

 rack travel mm : 4.00  
 Rated speed rpm : 1200  
 Tolerance 1/min :  $\pm$  15  


---

 rack travel mm : 0.75  
 Tolerance mm :  $\pm$  0.75  
 Rated speed rpm : 1300

LOW IDLE

control lever  
position degree : 73.0  
tolerance degree : ± 4.0

Testing:

Rated speed rpm : 300  
rack travel mm : 5.50  
Tolerance mm : ± 0.10

rack travel mm : 2.00  
Rated speed rpm : 400  
Tolerance 1/min : ± 20

Rated speed rpm : 200  
CRT mm min. : > 8.10

---

TORQUE CONTROL

Rated speed rpm : 550  
rack travel mm : 15.10  
Tolerance mm : ± 0.05

Rated speed rpm : 1050  
rack travel mm : 15.10  
Tolerance mm : ± 0.10

---

ANEROID/ALTITUDE  
COMPENSATOR TEST

SETTING

Rated speed rpm : 400  
Pressure hPa : 1100  
rack travel mm : 15.10  
Tolerance mm : ± 0.05

MEASUREMENT

Pressure hPa : -  
Rated speed rpm : 400  
rack travel mm : 9.15  
Tolerance mm : ± 0.20

Rated speed rpm : 400

Pressure hPa : 150  
rack travel mm : 10.05  
Tolerance mm : ± 0.20

Pressure hPa : 550  
rack travel mm : 13.85  
Tolerance mm : ± 0.20

---

START CUT-OUT

Rated speed rpm : > 100  
Check  
speed 1/min : > 80  
Rated speed rpm : < 220  
Check  
speed 1/min : < 240

---

FUEL DELIVERY CHARACTERISTICS

Aneroid pressure  
hPa : 1100  
Rated speed rpm : 1050  
Del. quantity  
cm<sup>3</sup>/1000 strokes : 240.0  
Tolerance  
cm<sup>3</sup>/1000 strokes : ± 3.0  
Check tolerance  
cm<sup>3</sup>/1000S. : ± 6.0  
Spreed  
Tolerance  
cm<sup>3</sup>/1000 strokes : 8.0  
Check tolerance  
cm<sup>3</sup>/1000S. : 12.0

Aneroid pressure  
hPa : -  
Rated speed rpm : 500  
Del. quantity  
cm<sup>3</sup>/1000 strokes : 135.0  
Tolerance  
cm<sup>3</sup>/1000 strokes : ± 1.0  
Check tolerance  
cm<sup>3</sup>/1000S. : ± 4.0  
Spreed  
Tolerance  
cm<sup>3</sup>/1000 strokes : 8.0  
Check tolerance  
cm<sup>3</sup>/1000S. : 12.0

---

BREAKAWAY

Rack travel in mm : 14.10  
Rated speed rpm : 1098  
Tolerance 1/min : ± 8

---

STARTING FUEL DELIVERY

Rated speed rpm : 100  
Del. quantity  
cm<sup>3</sup>/1000 strokes : 265.0



Tolerance  
cm<sup>3</sup>/1000 strokes : ± 20.0  
Check tolerance  
cm<sup>3</sup>/1000S. : ± 24.0

---

LOW IDLE

Rated speed rpm : 300  
rack travel mm : 6.20  
Tolerance mm : ± 0.30  
Del. quantity  
cm<sup>3</sup>/1000 strokes : 19.0  
Tolerance  
cm<sup>3</sup>/1000 strokes : ± 3.0  
Check tolerance  
cm<sup>3</sup>/1000S. : ± 6.0  
Speed  
Tolerance  
cm<sup>3</sup>/1000 strokes : 6.0  
Check tolerance  
cm<sup>3</sup>/1000S. : 10.0



BOSCH INJ. PUMP TEST SPECIFICATIONS

Note remarks

Refer to Service Info for test and adjustment instructions.  
See microcard(s) W400/...

Edition : 23.01.95  
Test oil : ISO 4113  
  
Combination No. : 0402646750  
  
Injection pump  
Pump designation : PE6P120A32OLS7836  
                  : -10  
EP type number : 0412626854  
  
Governor  
Governor design. : RQ300/1050PA1031-21  
Governor no. : 0421801772  
  
Cust. part No. : 0260743202

Customer-spec. information

Customer : MB-NFZ  
Motor : OM401 LA  
Power KW : 200.0

TEST BENCH REQUIREMENTS

Test oil inlet  
temp. °C : 40  
Tolerance °C : ± 2.0  
  
Overflow valve : 1417413047  
  
Inlet press. bar : 1.5  
Tolerance bar : ± 0.1  
  
Tolerance l/h : ± 10.0  
  
Test nozzle holder  
assembly : 1688901105  
  
Opening pressure  
bar : 208.5  
Tolerance bar : ± 1.5  
  
Test lines : 1680750075

M07

Outside diameter : 8.0  
x inside diameter : 3.0  
x length mm : 1000

REMARKS

(A) INJECTION PUMP SETTING VALUES  
Set equal delivery quant.  
per values \_\_\_\_\_

BEGINNING OF DELIVERY

Test pressure bar : 31.0  
Tolerance bar : ± 1.0  
  
Prestroke mm : 5.55  
Tolerance mm : ± 0.05  
  
test only : ± 0.10  
  
Rack travel in mm : 20.50  
Tolerance mm : ± 0.50  
  
Firing order : 6- 3- 5- 2- 4-  
                  : 1-  
  
Phasing : 0-60-120-180-240  
          : -300-360  
Tolerance : ± 0.30  
Check  
tolerance °NW : ± 0.75

BEGINNING OF DELIVERY DIFFERENCE

Time to cyl. no. : 6

BASIC SETTING

Rated speed rpm : 1050  
  
Rack travel in mm : 13.00  
Tolerance mm : ± 0.05

<hr/>	
Del. quantity	
cm <sup>3</sup> /1000 strokes :	190.0
<hr/>	
Tolerance	
cm <sup>3</sup> /1000 strokes :	+ 1.0
<hr/>	
Check tolerance	
cm <sup>3</sup> /1000S. :	+ 4.0
<hr/>	
Speed	
Tolerance	
cm <sup>3</sup> /1000 strokes :	5.0
<hr/>	
Check tolerance	
cm <sup>3</sup> /1000S. :	9.0
<hr/>	
2nd speed rpm	: 300
<hr/>	
Rack travel in mm :	5.80
Tolerance mm :	+ 0.30
Del. quantity	
cm <sup>3</sup> /1000 strokes :	19.0
Tolerance	
cm <sup>3</sup> /1000 strokes :	+ 3.0
Check tolerance	
cm <sup>3</sup> /1000S. :	+ 6.0
Speed	
Tolerance	
cm <sup>3</sup> /1000 strokes :	6.0
Check tolerance	
cm <sup>3</sup> /1000S. :	10.0

(B) SETTING OF INJECTION PUMP WITH GOVERNOR

GUIDE SLEEVE POSITION

Rated speed rpm	: 600
<hr/>	
Rack travel in mm :	20.00
Tolerance mm :	+ 0.80

FULL LOAD DELIVERY AT FULL LOAD STOP

Rated speed rpm	: 1050
Aneroid pressure	
hPa :	800
Del. quantity	
cm <sup>3</sup> /1000 strokes :	190.0
Tolerance	
cm <sup>3</sup> /1000 strokes :	+ 1.0
Check tolerance	
cm <sup>3</sup> /1000S. :	+ 4.0
Speed	

Tolerance	
cm <sup>3</sup> /1000 strokes :	5.0
Check tolerance	
cm <sup>3</sup> /1000S. :	9.0

RATED SPEED

control lever	
position degree :	96.0
tolerance degree :	+ 4.0
<hr/>	
rack travel mm :	12.00
Rated speed rpm :	1098
Tolerance 1/min :	+ 8
<hr/>	
rack travel mm :	4.00
Rated speed rpm :	1190
Tolerance 1/min :	+ 15
<hr/>	
rack travel mm :	0.75
Tolerance mm :	+ 0.75
Rated speed rpm :	1300

LOW IDLE

control lever	
position degree :	69.0
tolerance degree :	+ 4.0

Testing:

Rated speed rpm	: 300
rack travel mm	: 3.50
Tolerance mm	: + 0.10
<hr/>	
rack travel mm	: 2.00
Rated speed rpm	: 350
Tolerance 1/min	: + 20
<hr/>	
Rated speed rpm	: 200
<hr/>	
CRT mm min.	: > 5.10

TORQUE CONTROL

Rated speed rpm	: 1050
rack travel mm	: 13.00
Tolerance mm	: + 0.05
<hr/>	
Rated speed rpm	: 550
rack travel mm	: 13.00
Tolerance mm	: + 0.10

---

ANEROID/ALTITUDE  
COMPENSATOR TEST

SETTING

Rated speed rpm : 400  
Pressure hPa : 800  
rack travel mm : 13.00  
Tolerance mm : +- 0.05

MEASUREMENT

Pressure hPa : -  
Rated speed rpm : 400  
rack travel mm : 10.55  
Tolerance mm : +- 0.15

Rated speed rpm : 400

Pressure hPa : 200  
rack travel mm : 11.40  
Tolerance mm : +- 0.20

Pressure hPa : 350  
rack travel mm : 12.25  
Tolerance mm : +- 0.20

---

START CUT-OUT

Rated speed rpm : > 100  
Check  
speed 1/min : > 80  
Rated speed rpm : < 220  
Check  
speed 1/min : < 240

---

FUEL DELIVERY CHARACTERISTICS

Aneroid pressure  
hPa : 800  
Rated speed rpm : 550  
Del. quantity  
cm<sup>3</sup>/1000 strokes : 189.0  
Tolerance  
cm<sup>3</sup>/1000 strokes : +- 3.0  
Check tolerance  
cm<sup>3</sup>/1000S. : +- 6.0  
Spreed  
Tolerance  
cm<sup>3</sup>/1000 strokes : 8.0  
Check tolerance  
cm<sup>3</sup>/1000S. : 12.0

Aneroid pressure  
hPa : -

Rated speed rpm : 500  
Del. quantity  
cm<sup>3</sup>/1000 strokes : 127.0  
Tolerance  
cm<sup>3</sup>/1000 strokes : +- 1.0  
Check tolerance  
cm<sup>3</sup>/1000S. : +- 4.0  
Spreed  
Tolerance  
cm<sup>3</sup>/1000 strokes : 8.0  
Check tolerance  
cm<sup>3</sup>/1000S. : 12.0

---

BREAKAWAY

Rack travel in mm : 12.00  
Rated speed rpm : 1098  
Tolerance 1/min : +- 8

---

STARTING FUEL DELIVERY

Rated speed rpm : 100  
Del. quantity  
cm<sup>3</sup>/1000 strokes : 210.0  
Tolerance  
cm<sup>3</sup>/1000 strokes : +- 15.0  
Check tolerance  
cm<sup>3</sup>/1000S. : +- 19.0

---

LOW IDLE

Rated speed rpm : 300  
rack travel mm : 5.80  
Tolerance mm : +- 0.30  
Del. quantity  
cm<sup>3</sup>/1000 strokes : 19.0  
Tolerance  
cm<sup>3</sup>/1000 strokes : +- 3.0  
Check tolerance  
cm<sup>3</sup>/1000S. : +- 6.0  
Spreed  
Tolerance  
cm<sup>3</sup>/1000 strokes : 6.0  
Check tolerance  
cm<sup>3</sup>/1000S. : 10.0



Rack travel in mm : 14.20  
Tolerance mm : ± 0.05

Del. quantity  
cm<sup>3</sup>/1000 strokes : 202.0

Tolerance  
cm<sup>3</sup>/1000 strokes : ± 1.0

Check tolerance  
cm<sup>3</sup>/1000S. : ± 4.0

Spread  
Tolerance  
cm<sup>3</sup>/1000 strokes : 5.0

Check tolerance  
cm<sup>3</sup>/1000S. : 9.0

2nd speed rpm : 300

Rack travel in mm : 7.00  
Tolerance mm : ± 0.30

Del. quantity  
cm<sup>3</sup>/1000 strokes : 19.0

Tolerance  
cm<sup>3</sup>/1000 strokes : ± 3.0

Check tolerance  
cm<sup>3</sup>/1000S. : ± 6.0

Spread  
Tolerance  
cm<sup>3</sup>/1000 strokes : 6.0

Check tolerance  
cm<sup>3</sup>/1000S. : 10.0

(B) SETTING OF INJECTION PUMP  
WITH GOVERNOR

GUIDE SLEEVE TRAVEL

Rated speed rpm : 300  
guide sleeve  
travel mm : 1.93  
Tolerance mm : ± 0.10

Rated speed rpm : 1104  
guide sleeve  
travel mm : 6.83  
Tolerance mm : ± 0.10

Rated speed rpm : 1050  
guide sleeve  
travel mm : 6.50  
Tolerance mm : ± 0.10

Rated speed rpm : 732

guide sleeve  
travel mm : 6.13  
Tolerance mm : ± 0.10

Rated speed rpm : 430  
guide sleeve  
travel mm : 4.39  
Tolerance mm : ± 0.10

Rated speed rpm : 540  
guide sleeve  
travel mm : 6.00  
Tolerance mm : ± 0.10

Rated speed rpm : 1270  
guide sleeve  
travel mm : 11.50  
Tolerance mm : ± 0.50

Rated speed rpm : 829  
guide sleeve  
travel mm : 6.38  
Tolerance mm : ± 0.10

GUIDE SLEEVE POSITION

Rated speed rpm : 600

Rack travel in mm : 20.00  
Tolerance mm : ± 0.80

FULL LOAD DELIVERY AT FULL LOAD STOP

Rated speed rpm : 1050  
Aneroid pressure  
hPa : 800

Del. quantity  
cm<sup>3</sup>/1000 strokes : 202.0

Tolerance  
cm<sup>3</sup>/1000 strokes : ± 1.0

Check tolerance  
cm<sup>3</sup>/1000S. : ± 4.0

Spread  
Tolerance  
cm<sup>3</sup>/1000 strokes : 5.0

Check tolerance  
cm<sup>3</sup>/1000S. : 9.0

RATED SPEED

control lever  
position degree : 99.0  
tolerance degree : ± 4.0

rack travel mm : 13.20  
Rated speed rpm : 1098

Tolerance 1/min : +- 8  
 rack travel mm : 4.00  
 Rated speed rpm : 1190  
 Tolerance 1/min : +- 15  
 rack travel mm : 0.75  
 Tolerance mm : +- 0.75  
 Rated speed rpm : 1300

LOW IDLE

control lever  
 position degree : 73.0  
 tolerance degree : +- 4.0

Testing:

Rated speed rpm : 300  
 rack travel mm : 4.50  
 Tolerance mm : +- 0.10

rack travel mm : 2.00  
 Rated speed rpm : 400  
 Tolerance 1/min : +- 20

Rated speed rpm : 200

CRT mm min. : > 6.10

TORQUE CONTROL

Rated speed rpm : 1050  
 rack travel mm : 14.20  
 Tolerance mm : +- 0.05

Rated speed rpm : 550  
 rack travel mm : 14.20  
 Tolerance mm : +- 0.10

ANEROID/ALTITUDE  
 COMPENSATOR TEST

SETTING

Rated speed rpm : 400  
 Pressure hPa : 800  
 rack travel mm : 14.20  
 Tolerance mm : +- 0.05

MEASUREMENT

Pressure hPa : -  
 Rated speed rpm : 400  
 rack travel mm : 10.50

Tolerance mm : +- 0.15

Rated speed rpm : 400

Pressure hPa : 200  
 rack travel mm : 11.65  
 Tolerance mm : +- 0.20

Pressure hPa : 350  
 rack travel mm : 13.10  
 Tolerance mm : +- 0.20

START CUT-OUT

Rated speed rpm : > 100

Check  
 speed 1/min : > 80

Rated speed rpm : < 220

Check  
 speed 1/min : < 240

FUEL DELIVERY CHARACTERISTICS

Aneroid pressure  
 hPa : 800  
 Rated speed rpm : 550  
 Del. quantity  
 cm<sup>3</sup>/1000 strokes : 197.0  
 Tolerance  
 cm<sup>3</sup>/1000 strokes : +- 3.0  
 Check tolerance  
 cm<sup>3</sup>/1000S. : +- 6.0

Speed  
 Tolerance  
 cm<sup>3</sup>/1000 strokes : 8.0  
 Check tolerance  
 cm<sup>3</sup>/1000S. : 12.0

Aneroid pressure  
 hPa : -  
 Rated speed rpm : 500  
 Del. quantity  
 cm<sup>3</sup>/1000 strokes : 127.0  
 Tolerance  
 cm<sup>3</sup>/1000 strokes : +- 1.0  
 Check tolerance  
 cm<sup>3</sup>/1000S. : +- 4.0

Speed  
 Tolerance  
 cm<sup>3</sup>/1000 strokes : 8.0  
 Check tolerance  
 cm<sup>3</sup>/1000S. : 12.0

BREAKAWAY

Rack travel in mm : 13.20

Rated speed rpm : 1098  
Tolerance 1/min : ± 8

---

STARTING FUEL DELIVERY

Rated speed rpm : 100  
Del. quantity  
cm<sup>3</sup>/1000 strokes : 210.0  
Tolerance  
cm<sup>3</sup>/1000 strokes : ± 15.0  
Check tolerance  
cm<sup>3</sup>/1000S. : ± 19.0

---

LOW IDLE

Rated speed rpm : 300  
rack travel mm : 7.00  
Tolerance mm : ± 0.30  
Del. quantity  
cm<sup>3</sup>/1000 strokes : 19.0  
Tolerance  
cm<sup>3</sup>/1000 strokes : ± 3.0  
Check tolerance  
cm<sup>3</sup>/1000S. : ± 6.0  
Spreed  
Tolerance  
cm<sup>3</sup>/1000 strokes : 6.0  
Check tolerance  
cm<sup>3</sup>/1000S. : 10.0



BOSCH INJ. PUMP TEST SPECIFICATIONS

Note remarks

Refer to Service Info for test and adjustment instructions.  
See microcard(s) W400/...

Edition : 23.01.95  
Test oil : ISO 4113  
  
Combination No. : 0402646752  
  
Injection pump  
Pump designation : PE6P120A320LS7836  
: -10  
EP type number : 0412626854  
  
Governor  
Governor design. : RQ300/1050PA1030-26  
Governor no. : 0421801775

Cust. part No. : 0260742602

---

Customer-spec. information  
Customer : MB-NFZ  
Motor : OM401 LA  
Power KW : 180.0

---

TEST BENCH REQUIREMENTS

Test oil inlet  
temp. °C : 40  
Tolerance °C : ± 2.0

Overflow valve : 1417413047

Inlet press. bar : 1.5  
Tolerance bar : ± 0.1

Tolerance l/h : ± 10.0

Test nozzle holder  
assembly : 1688901105

Opening pressure  
bar : 208.5  
Tolerance bar : ± 1.5

Lube oil : 1409918004

Test Lines : 1680750075  
Outside diameter : 8.0  
x inside diameter : 3.0  
x length mm : 1000

---

REMARKS

(A) INJECTION PUMP SETTING VALUES  
Set equal delivery quant.  
per values \_\_\_\_\_

---

BEGINNING OF DELIVERY

Test pressure bar : 31.0  
Tolerance bar : ± 1.0

Prestroke mm : 5.55  
Tolerance mm : ± 0.05

test only : ± 0.10

Rack travel in mm : 20.50  
Tolerance mm : ± 0.50

Firing order : 6- 3- 5- 2- 4-  
: 1-

Phasing : 0-60-120-180-240  
: -300-360  
Tolerance : ± 0.30  
Check  
tolerance °NW : ± 0.75

---

BEGINNING OF DELIVERY DIFFERENCE

Time to cyl. no. : 6

---

BASIC SETTING

Rated speed rpm : 1050

---

Rack travel in mm : 12.40  
Tolerance mm : ± 0.05

Del. quantity  
cm<sup>3</sup>/1000 strokes : 173.0

Tolerance  
cm<sup>3</sup>/1000 strokes : ± 1.0

Check tolerance  
cm<sup>3</sup>/1000S. : ± 4.0

Spread  
Tolerance  
cm<sup>3</sup>/1000 strokes : 5.0

Check tolerance  
cm<sup>3</sup>/1000S. : 9.0

2nd speed rpm : 300

Rack travel in mm : 5.80  
Tolerance mm : ± 0.30

Del. quantity  
cm<sup>3</sup>/1000 strokes : 19.0

Tolerance  
cm<sup>3</sup>/1000 strokes : ± 3.0

Check tolerance  
cm<sup>3</sup>/1000S. : ± 6.0

Spread  
Tolerance  
cm<sup>3</sup>/1000 strokes : 6.0

Check tolerance  
cm<sup>3</sup>/1000S. : 10.0

(B) SETTING OF INJECTION PUMP  
WITH GOVERNOR

GUIDE SLEEVE TRAVEL

Rated speed rpm : 300  
guide sleeve  
travel mm : 1.61  
Tolerance mm : ± 0.10

Rated speed rpm : 1103  
guide sleeve  
travel mm : 6.37  
Tolerance mm : ± 0.10

Rated speed rpm : 1050  
guide sleeve  
travel mm : 6.00  
Tolerance mm : ± 0.10

Rated speed rpm : 431

guide sleeve  
travel mm : 4.05  
Tolerance mm : ± 0.10

Rated speed rpm : 550  
guide sleeve  
travel mm : 6.00  
Tolerance mm : ± 0.10

Rated speed rpm : 1280  
guide sleeve  
travel mm : 11.50  
Tolerance mm : ± 0.50

GUIDE SLEEVE POSITION

Rated speed rpm : 600

Rack travel in mm : 20.00  
Tolerance mm : ± 0.80

FULL LOAD DELIVERY AT FULL LOAD STOP

Rated speed rpm : 1050  
Aneroid pressure  
hPa : 700

Del. quantity  
cm<sup>3</sup>/1000 strokes : 173.0

Tolerance  
cm<sup>3</sup>/1000 strokes : ± 1.0

Check tolerance  
cm<sup>3</sup>/1000S. : ± 4.0

Spread  
Tolerance  
cm<sup>3</sup>/1000 strokes : 5.0

Check tolerance  
cm<sup>3</sup>/1000S. : 9.0

RATED SPEED

control lever  
position degree : 95.0  
tolerance degree : ± 4.0

rack travel mm : 11.40  
Rated speed rpm : 1098  
Tolerance 1/min : ± 8

rack travel mm : 4.00  
Rated speed rpm : 1180  
Tolerance 1/min : ± 15

rack travel mm : 0.75  
Tolerance mm : ± 0.75  
Rated speed rpm : 1300

---

LOW IDLE

control lever  
position degree : 72.0  
tolerance degree : ± 4.0

Testing:

Rated speed rpm : 300  
rack travel mm : 5.80  
Tolerance mm : ± 0.10

rack travel mm : 2.00  
Rated speed rpm : 415  
Tolerance 1/min : ± 20

Rated speed rpm : 200

CRT mm min. : > 7.40

---

TORQUE CONTROL

Rated speed rpm : 1053  
rack travel mm : 12.40  
Tolerance mm : ± 0.05

Rated speed rpm : 550  
rack travel mm : 12.40  
Tolerance mm : ± 0.10

---

ANEROID/ALTITUDE  
COMPENSATOR TEST

SETTING

Rated speed rpm : 400  
Pressure hPa : 700  
rack travel mm : 12.40  
Tolerance mm : ± 0.05

MEASUREMENT

Pressure hPa : -  
Rated speed rpm : 400  
rack travel mm : 11.05  
Tolerance mm : ± 0.15

Rated speed rpm : 400

Pressure hPa : 200  
rack travel mm : 11.45  
Tolerance mm : ± 0.20

Pressure hPa : 300

rack travel mm : 12.00  
Tolerance mm : ± 0.20

---

START CUT-OUT

Rated speed rpm : > 100  
Check  
speed 1/min : > 80  
Rated speed rpm : < 220  
Check  
speed 1/min : < 240

---

FUEL DELIVERY CHARACTERISTICS

Aneroid pressure  
hPa : 700  
Rated speed rpm : 550  
Del. quantity  
cm<sup>3</sup>/1000 strokes : 169.0  
Tolerance  
cm<sup>3</sup>/1000 strokes : ± 3.0  
Check tolerance  
cm<sup>3</sup>/1000S. : ± 6.0  
Speed  
Tolerance  
cm<sup>3</sup>/1000 strokes : 8.0  
Check tolerance  
cm<sup>3</sup>/1000S. : 12.0

Aneroid pressure  
hPa : -  
Rated speed rpm : 500  
Del. quantity  
cm<sup>3</sup>/1000 strokes : 135.0  
Tolerance  
cm<sup>3</sup>/1000 strokes : ± 1.0  
Check tolerance  
cm<sup>3</sup>/1000S. : ± 4.0  
Speed  
Tolerance  
cm<sup>3</sup>/1000 strokes : 8.0  
Check tolerance  
cm<sup>3</sup>/1000S. : 12.0

---

BREAKAWAY

Rack travel in mm : 11.40  
Rated speed rpm : 1098  
Tolerance 1/min : ± 8

---

STARTING FUEL DELIVERY

Rated speed rpm : 100

Del. quantity  
cm<sup>3</sup>/1000 strokes : 210.0  
Tolerance  
cm<sup>3</sup>/1000 strokes : ± 15.0  
Check tolerance  
cm<sup>3</sup>/1000S. : ± 19.0

---

LOW IDLE

Rated speed rpm : 300  
rack travel mm : 5.80  
Tolerance mm : ± 0.30  
Del. quantity  
cm<sup>3</sup>/1000 strokes : 19.0  
Tolerance  
cm<sup>3</sup>/1000 strokes : ± 3.0  
Check tolerance  
cm<sup>3</sup>/1000S. : ± 6.0  
Spreed  
Tolerance  
cm<sup>3</sup>/1000 strokes : 6.0  
Check tolerance  
cm<sup>3</sup>/1000S. : 10.0

BOSCH INJ. PUMP TEST SPECIFICATIONS

Note remarks

Refer to Service Info for test and adjustment instructions.  
See microcard(s) W400/...

Edition : 23.01.95  
Test oil : ISO 4113

Combination No. : 0402646753

Injection pump  
Pump designation : PE6P120A32DLS7836  
: -10  
EP type number : 0412626854

Governor  
Governor design. : RQV300...1050PA1065  
: -3  
Governor no. : 0421814142

Cust. part No. : 0260742802

---

Customer-spec. information  
Customer : MB-NFZ  
Motor : OM401 LA  
Power KW : 180.0

---

TEST BENCH REQUIREMENTS

Test oil inlet  
temp. °C : 40  
Tolerance °C : +- 2.0

Overflow valve : 1417413025

Inlet press. bar : 1.5  
Tolerance bar : +- 0.1

Overflow quantity  
min. l/h : 110  
Tolerance l/h : +- 10.0

Test nozzle holde  
assembly : 1688901105

Opening pressure  
bar : 208.5  
Tolerance bar : +- 1.5

M18

Lube oil : 1409918004

Test lines : 1680750075

Outside diameter : 8.0

x inside diameter : 3.0  
x length mm : 1000

---

REMARKS

(A) INJECTION PUMP SETTING VALUES  
Set equal delivery quant.  
per values \_\_\_\_\_

---

BEGINNING OF DELIVERY

Test pressure bar : 31.0  
Tolerance bar : +- 1.0

Prestroke mm : 5.55  
Tolerance mm : +- 0.05

test only : +- 0.10

Rack travel in mm : 20.50  
Tolerance mm : +- 0.50

Firing order : 6- 3- 5- 2- 4-  
: 1

Phasing : 0-60-120-180-240  
: -300

Tolerance : +- 0.30  
Check  
tolerance °NW : +- 0.75

---

BEGINNING OF DELIVERY DIFFERENCE

Time to cyl. no. : 6

---

BASIC SETTING

Rated speed rpm : 1050

---

Rack travel in mm : 12.40  
Tolerance mm : ± 0.05

---

Del. quantity  
cm<sup>3</sup>/1000 strokes : 173.0

---

Tolerance  
cm<sup>3</sup>/1000 strokes : ± 1.0

---

Check tolerance  
cm<sup>3</sup>/1000S. : ± 4.0

---

Spread  
Tolerance  
cm<sup>3</sup>/1000 strokes : 5.0

---

Check tolerance  
cm<sup>3</sup>/1000S. : 9.0

---

2nd speed rpm : 300

Rack travel in mm : 5.80  
Tolerance mm : ± 0.30

Del. quantity  
cm<sup>3</sup>/1000 strokes : 19.0

Tolerance  
cm<sup>3</sup>/1000 strokes : ± 3.0

Check tolerance  
cm<sup>3</sup>/1000S. : ± 6.0

Spread  
Tolerance  
cm<sup>3</sup>/1000 strokes : 6.0

Check tolerance  
cm<sup>3</sup>/1000S. : 10.0

(B) SETTING OF INJECTION PUMP  
WITH GOVERNOR

---

GUIDE SLEEVE TRAVEL

Rated speed rpm : 300  
guide sleeve  
travel mm : 1.13  
Tolerance mm : ± 0.20

Rated speed rpm : 1108  
guide sleeve  
travel mm : 9.81  
Tolerance mm : ± 0.15

Rated speed rpm : 370  
guide sleeve  
travel mm : 2.00  
Tolerance mm : ± 0.25

Rated speed rpm : 420

guide sleeve  
travel mm : 2.49  
Tolerance mm : ± 0.25

Rated speed rpm : 750  
guide sleeve  
travel mm : 4.87  
Tolerance mm : ± 0.25

Rated speed rpm : 1310  
guide sleeve  
travel mm : 13.50  
Tolerance mm : ± 0.50

---

GUIDE SLEEVE POSITION

control lever  
position degree : - 1  
Rated speed rpm : 1220

Rack travel in mm : 11.40  
Tolerance mm : ± 1.30

---

FULL LOAD DELIVERY AT FULL LOAD STOP

Rated speed rpm : 1050  
Aneroid pressure  
hPa : 700

Del. quantity  
cm<sup>3</sup>/1000 strokes : 173.0

Tolerance  
cm<sup>3</sup>/1000 strokes : ± 1.0

Check tolerance  
cm<sup>3</sup>/1000S. : ± 4.0

Spread  
Tolerance  
cm<sup>3</sup>/1000 strokes : 5.0

Check tolerance  
cm<sup>3</sup>/1000S. : 9.0

---

RATED SPEED

control lever  
position degree : 101.0  
tolerance degree : ± 4.0

rack travel mm : 11.40  
Rated speed rpm : 1095  
Tolerance 1/min : ± 5

rack travel mm : 4.00  
Rated speed rpm : 1170  
Tolerance 1/min : ± 15

rack travel mm : 0.75

Tolerance mm :  $\pm$  0.75  
Rated speed rpm : 1300

---

#### LOW IDLE

control lever  
position degree : 68.0  
tolerance degree :  $\pm$  4.0

#### Testing:

Rated speed rpm : 300  
rack travel mm : 5.80  
Tolerance mm :  $\pm$  0.10

Rated speed rpm : 200

CRT mm min. :  $>$  8.70

---

#### CONTINUOUS-ACTION CONTROL

Rated speed rpm : 400

---

#### TORQUE CONTROL

Rated speed rpm : 1050  
rack travel mm : 12.40  
Tolerance mm :  $\pm$  0.05

Rated speed rpm : 550  
rack travel mm : 12.40  
Tolerance mm :  $\pm$  0.10

---

#### ANEROID/ALTITUDE COMPENSATOR TEST

#### SETTING

Rated speed rpm : 400  
Pressure hPa : 700  
rack travel mm : 12.40  
Tolerance mm :  $\pm$  0.05

#### MEASUREMENT

Pressure hPa : -  
Rated speed rpm : 400  
rack travel mm : 11.05  
Tolerance mm :  $\pm$  0.15

Rated speed rpm : 400

Pressure hPa : 200  
rack travel mm : 11.45

---

M20

Tolerance mm :  $\pm$  0.20  
Pressure hPa : 300  
rack travel mm : 12.00  
Tolerance mm :  $\pm$  0.20

---

#### START CUT-OUT

Rated speed rpm :  $>$  100  
Check  
speed 1/min :  $>$  80  
Rated speed rpm :  $<$  220  
Check  
speed 1/min :  $<$  240

---

#### FUEL DELIVERY CHARACTERISTICS

Aneroid pressure  
hPa : 700  
Rated speed rpm : 550  
Del. quantity  
cm<sup>3</sup>/1000 strokes : 169.0  
Tolerance  
cm<sup>3</sup>/1000 strokes :  $\pm$  3.0  
Check tolerance  
cm<sup>3</sup>/1000S. :  $\pm$  6.0  
Spreed  
Tolerance  
cm<sup>3</sup>/1000 strokes : 8.0  
Check tolerance  
cm<sup>3</sup>/1000S. : 12.0

Aneroid pressure  
hPa : -  
Rated speed rpm : 500  
Del. quantity  
cm<sup>3</sup>/1000 strokes : 135.0  
Tolerance  
cm<sup>3</sup>/1000 strokes :  $\pm$  1.0  
Check tolerance  
cm<sup>3</sup>/1000S. :  $\pm$  4.0  
Spreed  
Tolerance  
cm<sup>3</sup>/1000 strokes : 8.0  
Check tolerance  
cm<sup>3</sup>/1000S. : 12.0

---

#### BREAKAWAY

Rack travel in mm : 11.40  
Rated speed rpm : 1095  
Tolerance 1/min :  $\pm$  5

---

#### STARTING FUEL DELIVERY

Rated speed rpm : 100  
Del. quantity  
cm<sup>3</sup>/1000 strokes : 210.0  
Tolerance  
cm<sup>3</sup>/1000 strokes : ± 15.0  
Check tolerance  
cm<sup>3</sup>/1000S. : ± 19.0

---

LOW IDLE

Rated speed rpm : 300  
rack travel mm : 5.80  
Tolerance mm : ± 0.30  
Del. quantity  
cm<sup>3</sup>/1000 strokes : 19.0  
Tolerance  
cm<sup>3</sup>/1000 strokes : ± 3.0  
Check tolerance  
cm<sup>3</sup>/1000S. : ± 6.0  
Spread  
Tolerance  
cm<sup>3</sup>/1000 strokes : 6.0  
Check tolerance  
cm<sup>3</sup>/1000S. : 10.0



BOSCH INJ. PUMP TEST SPECIFICATIONS

Note remarks

Refer to Service Info for test and adjustment instructions.  
See microcard(s) W400/...

Edition : 23.01.95  
Test oil : ISO 4113  
Combination No. : 0402646755  
Injection pump  
Pump designation : PE6P120A320LS7836-2  
EP type number : 0412626944  
Governor  
Governor design. : RQV300...1050PA1033  
: -20  
Governor no. : 0421814140  
Cust. part No. : 0260742702

Customer-spec. information  
Customer : MB-NFZ  
Motor : OM401 LA  
Power KW : 180.0

TEST BENCH REQUIREMENTS

Test oil inlet  
temp. °C : 40  
Tolerance °C : ± 2.0  
Overflow valve : 1417413047  
Inlet press. bar : 1.5  
Tolerance bar : ± 0.1  
Tolerance l/h : ± 10.0  
Test nozzle holder  
assembly : 1688901105  
Opening pressure  
bar : 208.5  
Tolerance bar : ± 1.5  
Lube oil : 1409918004

Test lines : 1680750075  
Outside diameter : 8.0  
x inside diameter : 3.0  
x length mm : 1000

REMARKS

(A) INJECTION PUMP SETTING VALUES  
Set equal delivery quant.  
per values \_\_\_\_\_

BEGINNING OF DELIVERY

Test pressure bar : 31.0  
Tolerance bar : ± 1.0  
Prestroke mm : 5.55  
Tolerance mm : ± 0.05  
test only : ± 0.10  
Rack travel in mm : 20.50  
Tolerance mm : ± 0.50  
Firing order : 6- 3- 5- 2- 4-  
: 1-  
Phasing : 0-60-120-180-240  
: -300-360  
Tolerance : ± 0.30  
Check  
tolerance °NW : ± 0.75

BEGINNING OF DELIVERY DIFFERENCE

Time to cyl. no. : 6

BASIC SETTING

Rated speed rpm : 1050

Rack travel in mm : 12.40

Tolerance mm :  $\pm$  0.05  


---

 Del. quantity  
 cm<sup>3</sup>/1000 strokes : 173.0  


---

 Tolerance  
 cm<sup>3</sup>/1000 strokes :  $\pm$  1.0  


---

 Check tolerance  
 cm<sup>3</sup>/1000S. :  $\pm$  4.0  


---

 Spreed  
 Tolerance  
 cm<sup>3</sup>/1000 strokes : 5.0  


---

 Check tolerance  
 cm<sup>3</sup>/1000S. : 9.0  


---

 2nd speed rpm : 300  


---

 Rack travel in mm : 5.80  
 Tolerance mm :  $\pm$  0.30  
 Del. quantity  
 cm<sup>3</sup>/1000 strokes : 19.0  
 Tolerance  
 cm<sup>3</sup>/1000 strokes :  $\pm$  3.0  
 Check tolerance  
 cm<sup>3</sup>/1000S. :  $\pm$  6.0  
 Spreed  
 Tolerance  
 cm<sup>3</sup>/1000 strokes : 6.0  
 Check tolerance  
 cm<sup>3</sup>/1000S. : 10.0

(B) SETTING OF INJECTION PUMP  
WITH GOVERNOR

GUIDE SLEEVE TRAVEL

Rated speed rpm : 300  
 guide sleeve  
 travel mm : 1.29  
 Tolerance mm :  $\pm$  0.20  


---

 Rated speed rpm : 1107  
 guide sleeve  
 travel mm : 8.52  
 Tolerance mm :  $\pm$  0.15  


---

 Rated speed rpm : 558  
 guide sleeve  
 travel mm : 4.53  
 Tolerance mm :  $\pm$  0.25  


---

 Rated speed rpm : 608  
 guide sleeve  
 travel mm : 5.03  
 Tolerance mm :  $\pm$  0.25

Rated speed rpm : 820  
 guide sleeve  
 travel mm : 6.13  
 Tolerance mm :  $\pm$  0.25  


---

 Rated speed rpm : 1183  
 guide sleeve  
 travel mm : 10.00  
 Tolerance mm :  $\pm$  0.25  


---

 Rated speed rpm : 1280  
 guide sleeve  
 travel mm : 11.50  
 Tolerance mm :  $\pm$  0.50

GUIDE SLEEVE POSITION

control lever  
 position degree : - 1  
 Rated speed rpm : 1150  


---

 Rack travel in mm : 11.40  
 Tolerance mm :  $\pm$  1.30

FULL LOAD DELIVERY AT FULL LOAD STOP

Rated speed rpm : 1050  
 Aneroid pressure  
 hPa : 700  
 Del. quantity  
 cm<sup>3</sup>/1000 strokes : 173.0  
 Tolerance  
 cm<sup>3</sup>/1000 strokes :  $\pm$  1.0  
 Check tolerance  
 cm<sup>3</sup>/1000S. :  $\pm$  4.0  
 Spreed  
 Tolerance  
 cm<sup>3</sup>/1000 strokes : 5.0  
 Check tolerance  
 cm<sup>3</sup>/1000S. : 9.0

RATED SPEED

control lever  
 position degree : 119.0  
 tolerance degree :  $\pm$  4.0  


---

 rack travel mm : 11.40  
 Rated speed rpm : 1095  
 Tolerance 1/min :  $\pm$  5  


---

 rack travel mm : 4.00  
 Rated speed rpm : 1170  
 Tolerance 1/min :  $\pm$  15

rack travel mm : 0.75  
Tolerance mm : +- 0.75  
Rated speed rpm : 1300

---

#### LOW IDLE

control lever  
position degree : 66.0  
tolerance degree : +- 4.0

#### Testing:

Rated speed rpm : 300  
rack travel mm : 5.80  
Tolerance mm : +- 0.10

Rated speed rpm : 200

CRT mm min. : > 7.60

---

#### CONTINUOUS-ACTION CONTROL

Rated speed rpm : 375

---

#### TORQUE CONTROL

Rated speed rpm : 1050  
rack travel mm : 12.40  
Tolerance mm : +- 0.05

Rated speed rpm : 550  
rack travel mm : 12.40  
Tolerance mm : +- 0.10

---

#### ANEROID/ALTITUDE COMPENSATOR TEST

#### SETTING

Rated speed rpm : 400  
Pressure hPa : 700  
rack travel mm : 12.40  
Tolerance mm : +- 0.05

#### MEASUREMENT

Pressure hPa : -  
Rated speed rpm : 400  
rack travel mm : 11.05  
Tolerance mm : +- 0.15

Rated speed rpm : 400

Pressure hPa : 200  
rack travel mm : 11.45  
Tolerance mm : +- 0.20

Pressure hPa : 300  
rack travel mm : 12.00  
Tolerance mm : +- 0.20

---

#### START CUT-OUT

Rated speed rpm : > 100

Check  
speed 1/min : > 80

Rated speed rpm : < 220

Check  
speed 1/min : < 240

---

#### FUEL DELIVERY CHARACTERISTICS

Aneroid pressure  
hPa : 700

Rated speed rpm : 550

Del. quantity  
cm<sup>3</sup>/1000 strokes : 169.0

Tolerance  
cm<sup>3</sup>/1000 strokes : +- 3.0

Check tolerance  
cm<sup>3</sup>/1000S. : +- 6.0

Speed  
Tolerance  
cm<sup>3</sup>/1000 strokes : 8.0

Check tolerance  
cm<sup>3</sup>/1000S. : 12.0

Aneroid pressure  
hPa : -

Rated speed rpm : 500

Del. quantity  
cm<sup>3</sup>/1000 strokes : 135.0

Tolerance  
cm<sup>3</sup>/1000 strokes : +- 1.0

Check tolerance  
cm<sup>3</sup>/1000S. : +- 4.0

Speed  
Tolerance  
cm<sup>3</sup>/1000 strokes : 8.0

Check tolerance  
cm<sup>3</sup>/1000S. : 12.0

---

#### BREAKAWAY

Rack travel in mm : 11.40

Rated speed rpm : 1095

Tolerance 1/min : +- 5

---

STARTING FUEL DELIVERY

Rated speed rpm : 100  
Del. quantity  
cm<sup>3</sup>/1000 strokes : 210.0  
Tolerance  
cm<sup>3</sup>/1000 strokes : ± 15.0  
Check tolerance  
cm<sup>3</sup>/1000S. : ± 19.0

---

LOW IDLE

Rated speed rpm : 300  
rack travel mm : 5.80  
Tolerance mm : ± 0.30  
Del. quantity  
cm<sup>3</sup>/1000 strokes : 19.0  
Tolerance  
cm<sup>3</sup>/1000 strokes : ± 3.0  
Check tolerance  
cm<sup>3</sup>/1000S. : ± 6.0  
Spreed  
Tolerance  
cm<sup>3</sup>/1000 strokes : 6.0  
Check tolerance  
cm<sup>3</sup>/1000S. : 10.0

BOSCH INJ. PUMP TEST SPECIFICATIONS

Note remarks

Refer to Service Info for test and adjustment instructions.  
See microcard(s) W400/...

Edition : 23.01.95  
Test oil : ISO 4113  
  
Combination No. : 0402646757  
  
Injection pump  
Pump designation : PE6P120A320LS7836  
: -1G  
EP type number : 0412626854  
  
Governor  
Governor design. : RQ300/1050PA1030-25  
Governor no. : 0421801771

Cust. part No. : 0260743002

Customer-spec. information  
Customer : MB-NFZ  
Motor : OM401 LA  
Power KW : 200.0

TEST BENCH REQUIREMENTS

Test oil inlet  
temp. °C : 40  
Tolerance °C : ± 2.0

Overflow valve : 1417413047

Inlet press. bar : 1.5  
Tolerance bar : ± 0.1

Tolerance l/h : ± 10.0

Test nozzle holder  
assembly : 1688901105

Opening pressure  
bar : 208.5  
Tolerance bar : ± 1.5

Lube oil : 1409918004

Test lines : 1680750075  
Outside diameter : 8.0  
x inside diameter : 3.0  
x length mm : 1000

REMARKS

(A) INJECTION PUMP SETTING VALUES  
Set equal delivery quant.  
per values \_\_\_\_\_

BEGINNING OF DELIVERY

Test pressure bar : 31.0  
Tolerance bar : ± 1.0

Prestroke mm : 5.55  
Tolerance mm : ± 0.05

test only : ± 0.10

Rack travel in mm : 20.50  
Tolerance mm : ± 0.50

Firing order : 6- 3- 5- 2- 4-  
: 1-

Phasing : 0-60-120-180-240  
: -300-360  
Tolerance : ± 0.30  
Check  
tolerance °NW : ± 0.75

BEGINNING OF DELIVERY DIFFERENCE

Time to cyl. no. : 6

BASIC SETTING

Rated speed rpm : 1050

Rack travel in mm	:	13.00
Tolerance mm	:	± 0.05
<hr/>		
Del. quantity		
cm <sup>3</sup> /1000 strokes	:	190.0
<hr/>		
Tolerance		
cm <sup>3</sup> /1000 strokes	:	± 1.0
<hr/>		
Check tolerance		
cm <sup>3</sup> /1000S.	:	± 4.0
<hr/>		
Speed		
Tolerance		
cm <sup>3</sup> /1000 strokes	:	5.0
<hr/>		
Check tolerance		
cm <sup>3</sup> /1000S.	:	9.0
<hr/>		
2nd speed rpm	:	300
<hr/>		
Rack travel in mm	:	5.80
Tolerance mm	:	± 0.30
Del. quantity		
cm <sup>3</sup> /1000 strokes	:	19.0
Tolerance		
cm <sup>3</sup> /1000 strokes	:	± 3.0
Check tolerance		
cm <sup>3</sup> /1000S.	:	± 6.0
Speed		
Tolerance		
cm <sup>3</sup> /1000 strokes	:	6.0
Check tolerance		
cm <sup>3</sup> /1000S.	:	10.0

(B) SETTING OF INJECTION PUMP  
WITH GOVERNOR

GUIDE SLEEVE POSITION

Rated speed rpm	:	600
<hr/>		
Rack travel in mm	:	20.00
Tolerance mm	:	± 0.80

FULL LOAD DELIVERY AT FULL LOAD STOP

Rated speed rpm	:	1050
Aneroid pressure		
hPa	:	800
Del. quantity		
cm <sup>3</sup> /1000 strokes	:	190.0
Tolerance		
cm <sup>3</sup> /1000 strokes	:	± 1.0

Check tolerance		
cm <sup>3</sup> /1000S.	:	± 4.0
Speed		
Tolerance		
cm <sup>3</sup> /1000 strokes	:	5.0
Check tolerance		
cm <sup>3</sup> /1000S.	:	9.0

RATED SPEED

control lever		
position degree	:	95.0
tolerance degree	:	± 4.0
<hr/>		
rack travel mm	:	12.00
Rated speed rpm	:	1098
Tolerance 1/min	:	± 8
<hr/>		
rack travel mm	:	4.00
Rated speed rpm	:	1185
Tolerance 1/min	:	± 15
<hr/>		
rack travel mm	:	0.75
Tolerance mm	:	± 0.75
Rated speed rpm	:	1300

LOW IDLE

control lever		
position degree	:	72.0
tolerance degree	:	± 4.0

Testing:

Rated speed rpm	:	300
rack travel mm	:	5.80
Tolerance mm	:	± 0.10
<hr/>		
rack travel mm	:	2.00
Rated speed rpm	:	415
Tolerance 1/min	:	± 20
<hr/>		
Rated speed rpm	:	200
CRT mm min.	:	> 7.60

TORQUE CONTROL

Rated speed rpm	:	1050
rack travel mm	:	13.00
Tolerance mm	:	± 0.05
<hr/>		
Rated speed rpm	:	550
rack travel mm	:	13.00
Tolerance mm	:	± 0.10

---

ANEROID/ALTITUDE  
COMPENSATOR TEST

SETTING

Rated speed rpm : 400  
Pressure hPa : 800  
rack travel mm : 13.00  
Tolerance mm :  $\pm$  0.05

MEASUREMENT

Pressure hPa : -  
Rated speed rpm : 400  
rack travel mm : 10.55  
Tolerance mm :  $\pm$  0.15

Rated speed rpm : 400

Pressure hPa : 200  
rack travel mm : 11.40  
Tolerance mm :  $\pm$  0.20

Pressure hPa : 350  
rack travel mm : 12.25  
Tolerance mm :  $\pm$  0.20

---

START CUT-OUT

Rated speed rpm : > 100  
Check  
speed 1/min : > 80  
Rated speed rpm : < 220  
Check  
speed 1/min : < 240

---

FUEL DELIVERY CHARACTERISTICS

Aneroid pressure  
hPa : 800  
Rated speed rpm : 550  
Del. quantity  
cm<sup>3</sup>/1000 strokes : 189.0  
Tolerance  
cm<sup>3</sup>/1000 strokes :  $\pm$  3.0  
Check tolerance  
cm<sup>3</sup>/1000S. :  $\pm$  6.0  
Spreed  
Tolerance  
cm<sup>3</sup>/1000 strokes : 8.0  
Check tolerance  
cm<sup>3</sup>/1000S. : 12.0

Aneroid pressure  
hPa : -

Rated speed rpm : 500  
Del. quantity  
cm<sup>3</sup>/1000 strokes : 127.0  
Tolerance  
cm<sup>3</sup>/1000 strokes :  $\pm$  1.0  
Check tolerance  
cm<sup>3</sup>/1000S. :  $\pm$  4.0  
Spreed  
Tolerance  
cm<sup>3</sup>/1000 strokes : 8.0  
Check tolerance  
cm<sup>3</sup>/1000S. : 12.0

---

BREAKAWAY

Rack travel in mm : 12.00  
Rated speed rpm : 1098  
Tolerance 1/min :  $\pm$  8

---

STARTING FUEL DELIVERY

Rated speed rpm : 100  
Del. quantity  
cm<sup>3</sup>/1000 strokes : 210.0  
Tolerance  
cm<sup>3</sup>/1000 strokes :  $\pm$  15.0  
Check tolerance  
cm<sup>3</sup>/1000S. :  $\pm$  19.0

---

LOW IDLE

Rated speed rpm : 300  
rack travel mm : 5.80  
Tolerance mm :  $\pm$  0.30  
Del. quantity  
cm<sup>3</sup>/1000 strokes : 19.0  
Tolerance  
cm<sup>3</sup>/1000 strokes :  $\pm$  3.0  
Check tolerance  
cm<sup>3</sup>/1000S. :  $\pm$  6.0  
Spreed  
Tolerance  
cm<sup>3</sup>/1000 strokes : 6.0  
Check tolerance  
cm<sup>3</sup>/1000S. : 10.0

BOSCH INJ. PUMP TEST SPECIFICATIONS

Note remarks

Refer to Service Info for test and adjustment instructions.  
See microcard(s) W400/...

Edition : 23.01.95  
Test oil : ISO 4113  
Combination No. : 0402646758  
Injection pump  
Pump designation : PE6P120A320LS7834  
: -10  
EP type number : 0412626853  
Governor  
Governor design. : RQ300/1050PA1030-24  
Governor no. : 0421801770  
Cust. part No. : 0260743302

---

Customer-spec. information  
Customer : MB-NFZ  
Motor : OM401 LA  
Power kW : 213.0

---

TEST BENCH REQUIREMENTS

Test oil inlet  
temp. °C : 40  
Tolerance °C : ± 2.0  
Overflow valve : 1417413047  
Inlet press. bar : 1.5  
Tolerance bar : ± 0.1  
Tolerance l/h : ± 10.0  
Test nozzle holder  
assembly : 1688901105  
Opening pressure  
bar : 208.5  
Tolerance bar : ± 1.5  
Lube oil : 1409918004

Test lines : 1680750075  
Outside diameter : 8.0  
x inside diameter : 3.0  
x length mm : 1000

---

REMARKS

(A) INJECTION PUMP SETTING VALUES  
Set equal delivery quant.  
per values \_\_\_\_\_

---

BEGINNING OF DELIVERY

Test pressure bar : 31.0  
Tolerance bar : ± 1.0  
Prestroke mm : 5.55  
Tolerance mm : ± 0.05  
test only : ± 0.10  
Rack travel in mm : 20.50  
Tolerance mm : ± 0.50  
Firing order : 6- 3- 5- 2- 4-  
: 1  
Phasing : 0-60-120-180-240  
: -300  
Tolerance : ± 0.30  
Check  
tolerance °NW : ± 0.75

---

BEGINNING OF DELIVERY DIFFERENCE

Time to cyl. no. : 6

---

BASIC SETTING

Rated speed rpm : 1050

---



Rack travel in mm :	14.20
Tolerance mm :	+ 0.05
<hr/>	
Del. quantity cm <sup>3</sup> /1000 strokes :	202.0
<hr/>	
Tolerance cm <sup>3</sup> /1000 strokes :	+ 1.0
<hr/>	
Check tolerance cm <sup>3</sup> /1000S. :	+ 4.0
<hr/>	
Speed Tolerance cm <sup>3</sup> /1000 strokes :	5.0
<hr/>	
Check tolerance cm <sup>3</sup> /1000S. :	9.0
<hr/>	
2nd speed rpm :	300
<hr/>	
Rack travel in mm :	7.00
Tolerance mm :	+ 0.30
Del. quantity cm <sup>3</sup> /1000 strokes :	19.0
Tolerance cm <sup>3</sup> /1000 strokes :	+ 3.0
Check tolerance cm <sup>3</sup> /1000S. :	+ 6.0
Speed Tolerance cm <sup>3</sup> /1000 strokes :	6.0
Check tolerance cm <sup>3</sup> /1000S. :	10.0

(B) SETTING OF INJECTION PUMP  
WITH GOVERNOR

GUIDE SLEEVE TRAVEL

Rated speed rpm :	300
guide sleeve travel mm :	1.78
Tolerance mm :	+ 0.10
<hr/>	
Rated speed rpm :	1104
guide sleeve travel mm :	6.69
Tolerance mm :	+ 0.10
<hr/>	
Rated speed rpm :	1050
guide sleeve travel mm :	6.35
Tolerance mm :	+ 0.10
<hr/>	
Rated speed rpm :	818

guide sleeve travel mm :	6.09
Tolerance mm :	+ 0.10
<hr/>	
Rated speed rpm :	410
guide sleeve travel mm :	4.39
Tolerance mm :	+ 0.10
<hr/>	
Rated speed rpm :	510
guide sleeve travel mm :	6.00
Tolerance mm :	+ 0.10
<hr/>	
Rated speed rpm :	1270
guide sleeve travel mm :	11.50
Tolerance mm :	+ 0.50
<hr/>	
Rated speed rpm :	889
guide sleeve travel mm :	6.26
Tolerance mm :	+ 0.10

GUIDE SLEEVE POSITION

Rated speed rpm :	600
<hr/>	
Rack travel in mm :	20.00
Tolerance mm :	+ 0.80

FULL LOAD DELIVERY AT FULL LOAD STOP

Rated speed rpm :	1050
Aneroid pressure hPa :	800
Del. quantity cm <sup>3</sup> /1000 strokes :	202.0
Tolerance cm <sup>3</sup> /1000 strokes :	+ 1.0
Check tolerance cm <sup>3</sup> /1000S. :	+ 4.0
Speed Tolerance cm <sup>3</sup> /1000 strokes :	5.0
Check tolerance cm <sup>3</sup> /1000S. :	9.0

RATED SPEED

control lever position degree :	100.0
tolerance degree :	+ 4.0
<hr/>	
rack travel mm :	13.20
Rated speed rpm :	1098

Tolerance 1/min : +- 8  
rack travel mm : 4.00  
Rated speed rpm : 1195  
Tolerance 1/min : +- 15  
rack travel mm : 0.75  
Tolerance mm : +- 0.75  
Rated speed rpm : 1300

---

#### LOW IDLE

control lever  
position degree : 73.0  
tolerance degree : +- 4.0

#### Testing:

Rated speed rpm : 300  
rack travel mm : 5.70  
Tolerance mm : +- 0.10

rack travel mm : 2.00  
Rated speed rpm : 400  
Tolerance 1/min : +- 20

Rated speed rpm : 200

CRT mm min. : > 7.90

---

#### TORQUE CONTROL

Rated speed rpm : 1050  
rack travel mm : 14.20  
Tolerance mm : +- 0.05

Rated speed rpm : 550  
rack travel mm : 14.20  
Tolerance mm : +- 0.10

---

#### ANEROID/ALTITUDE COMPENSATOR TEST

#### SETTING

Rated speed rpm : 400  
Pressure hPa : 800  
rack travel mm : 14.20  
Tolerance mm : +- 0.05

#### MEASUREMENT

Pressure hPa : -  
Rated speed rpm : 400  
rack travel mm : 10.50

N03

Tolerance mm : +- 0.15  
Rated speed rpm : 400  
Pressure hPa : 200  
rack travel mm : 11.65  
Tolerance mm : +- 0.20  
Pressure hPa : 350  
rack travel mm : 13.10  
Tolerance mm : +- 0.20

---

#### START CUT-OUT

Rated speed rpm : > 100  
Check  
speed 1/min : > 80  
Rated speed rpm : < 220  
Check  
speed 1/min : < 240

---

#### FUEL DELIVERY CHARACTERISTICS

Aneroid pressure  
hPa : 800  
Rated speed rpm : 550  
Del. quantity  
cm<sup>3</sup>/1000 strokes : 197.0  
Tolerance  
cm<sup>3</sup>/1000 strokes : +- 3.0  
Check tolerance  
cm<sup>3</sup>/1000S. : +- 6.0  
Speed  
Tolerance  
cm<sup>3</sup>/1000 strokes : 8.0  
Check tolerance  
cm<sup>3</sup>/1000S. : 12.0

Aneroid pressure  
hPa : -  
Rated speed rpm : 500  
Del. quantity  
cm<sup>3</sup>/1000 strokes : 127.0  
Tolerance  
cm<sup>3</sup>/1000 strokes : +- 1.0  
Check tolerance  
cm<sup>3</sup>/1000S. : +- 4.0  
Speed  
Tolerance  
cm<sup>3</sup>/1000 strokes : 8.0  
Check tolerance  
cm<sup>3</sup>/1000S. : 12.0

---

#### BREAKAWAY

Rack travel in mm : 13.20

Rated speed rpm : 1098  
Tolerance 1/min : ± 8

---

STARTING FUEL DELIVERY

Rated speed rpm : 100  
Del. quantity  
cm<sup>3</sup>/1000 strokes : 210.0  
Tolerance  
cm<sup>3</sup>/1000 strokes : ± 15.0  
Check tolerance  
cm<sup>3</sup>/1000S. : ± 19.0

---

LOW IDLE

Rated speed rpm : 300  
rack travel mm : 7.00  
Tolerance mm : ± 0.30  
Del. quantity  
cm<sup>3</sup>/1000 strokes : 19.0  
Tolerance  
cm<sup>3</sup>/1000 strokes : ± 3.0  
Check tolerance  
cm<sup>3</sup>/1000S. : ± 6.0  
Spreed  
Tolerance  
cm<sup>3</sup>/1000 strokes : 6.0  
Check tolerance  
cm<sup>3</sup>/1000S. : 10.0

BOSCH INJ. PUMP TEST SPECIFICATIONS

Note remarks

Refer to Service Info for test and adjustment instructions.  
See microcard(s) W400/...

Edition : 23.01.95  
Test oil : ISO 4113  
  
Combination No. : 0402646759  
  
Injection pump  
Pump designation : PE6P120A320LS7836  
: -10  
EP type number : 0412626854  
  
Governor  
Governor design. : RQV300...1050PA1033  
: -19  
Governor no. : 0421814137  
  
Cust. part No. : 0260743102

Customer-spec. information  
Customer : MB-NFZ  
Motor : OM401 LA  
Power kW : 200.0

TEST BENCH REQUIREMENTS

Test oil inlet  
temp. °C : 40  
Tolerance °C : +- 2.0  
  
Overflow valve : 1417413047  
  
Inlet press. bar : 1.5  
Tolerance bar : +- 0.1  
  
Tolerance l/h : +- 10.0  
  
Test nozzle holde  
assembly : 1688901105  
  
Opening pressure  
bar : 208.5  
Tolerance bar : +- 1.5  
  
Lube oil : 1409918004

N05

Test lines : 1680750075  
Outside diameter : 8.0  
x inside diameter : 3.0  
x length mm : 1000

REMARKS

(A) INJECTION PUMP SETTING VALUES  
Set equal delivery quant.  
per values \_\_\_\_\_

BEGINNING OF DELIVERY

Test pressure bar : 31.0  
Tolerance bar : +- 1.0  
  
Prestroke mm : 5.55  
Tolerance mm : +- 0.05  
test only : +- 0.10  
  
Rack travel in mm : 20.50  
Tolerance mm : +- 0.50  
  
Firing order : 6- 3- 5- 2- 4-  
: 1-  
  
Phasing : 0-60-120-180-240  
: -300-360  
Tolerance : +- 0.30  
Check  
tolerance °NW : +- 0.75

BEGINNING OF DELIVERY DIFFERENCE

Time to cyl. no. : 6

BASIC SETTING

Rated speed rpm : 1050

Rack travel in mm : 13.00  
 Tolerance mm :  $\pm$  0.05

---

Del. quantity  
 cm<sup>3</sup>/1000 strokes : 190.0

---

Tolerance  
 cm<sup>3</sup>/1000 strokes :  $\pm$  1.0

---

Check tolerance  
 cm<sup>3</sup>/1000S. :  $\pm$  4.0

---

Spreed  
 Tolerance  
 cm<sup>3</sup>/1000 strokes : 5.0

---

Check tolerance  
 cm<sup>3</sup>/1000S. : 9.0

---

2nd speed rpm : 300

---

Rack travel in mm : 5.80  
 Tolerance mm :  $\pm$  0.30  
 Del. quantity  
 cm<sup>3</sup>/1000 strokes : 19.0  
 Tolerance  
 cm<sup>3</sup>/1000 strokes :  $\pm$  3.0  
 Check tolerance  
 cm<sup>3</sup>/1000S. :  $\pm$  6.0  
 Spreed  
 Tolerance  
 cm<sup>3</sup>/1000 strokes : 6.0  
 Check tolerance  
 cm<sup>3</sup>/1000S. : 10.0

(B) SETTING OF INJECTION PUMP  
WITH GOVERNOR

---

GUIDE SLEEVE POSITION

control lever  
 position degree : - 1  
 Rated speed rpm : 1155

Rack travel in mm : 12.00  
 Tolerance mm :  $\pm$  1.30

---

FULL LOAD DELIVERY AT FULL LOAD STOP

Rated speed rpm : 1050  
 Aneroid pressure  
 hPa : 800  
 Del. quantity  
 cm<sup>3</sup>/1000 strokes : 190.0

Tolerance  
 cm<sup>3</sup>/1000 strokes :  $\pm$  1.0  
 Check tolerance  
 cm<sup>3</sup>/1000S. :  $\pm$  4.0  
 Spreed  
 Tolerance  
 cm<sup>3</sup>/1000 strokes : 5.0  
 Check tolerance  
 cm<sup>3</sup>/1000S. : 9.0

---

RATED SPEED

control lever  
 position degree : 120.0  
 tolerance degree :  $\pm$  4.0

rack travel mm : 12.00  
 Rated speed rpm : 1095  
 Tolerance 1/min :  $\pm$  5

rack travel mm : 4.00  
 Rated speed rpm : 1175  
 Tolerance 1/min :  $\pm$  15

rack travel mm : 0.75  
 Tolerance mm :  $\pm$  0.75  
 Rated speed rpm : 1300

---

LOW IDLE

control lever  
 position degree : 66.0  
 tolerance degree :  $\pm$  4.0

Testing:

Rated speed rpm : 300  
 rack travel mm : 5.80  
 Tolerance mm :  $\pm$  0.10

Rated speed rpm : 200

CRT mm min. : > 7.60

---

CONTINUOUS-ACTION CONTROL

Rated speed rpm : 350

---

TORQUE CONTROL

Rated speed rpm : 1050  
 rack travel mm : 13.00  
 Tolerance mm :  $\pm$  0.05

Rated speed rpm : 550  
rack travel mm : 13.00  
Tolerance mm : ± 0.10

---

ANEROID/ALTITUDE  
COMPENSATOR TEST

SETTING

Rated speed rpm : 400  
Pressure hPa : 800  
rack travel mm : 13.00  
Tolerance mm : ± 0.05

MEASUREMENT

Pressure hPa : -  
Rated speed rpm : 400  
rack travel mm : 10.55  
Tolerance mm : ± 0.15

Rated speed rpm : 400

Pressure hPa : 200  
rack travel mm : 11.40  
Tolerance mm : ± 0.20

Pressure hPa : 350  
rack travel mm : 12.25  
Tolerance mm : ± 0.20

---

START CUT-OUT

Rated speed rpm : > 100  
Check  
speed 1/min : > 80  
Rated speed rpm : < 220  
Check  
speed 1/min : < 240

---

FUEL DELIVERY CHARACTERISTICS

Aneroid pressure  
hPa : 800  
Rated speed rpm : 550  
Del. quantity  
cm<sup>3</sup>/1000 strokes : 189.0  
Tolerance  
cm<sup>3</sup>/1000 strokes : ± 3.0  
Check tolerance  
cm<sup>3</sup>/1000S. : ± 6.0  
Spreed  
Tolerance  
cm<sup>3</sup>/1000 strokes : 8.0  
Check tolerance  
cm<sup>3</sup>/1000S. : 12.0

Aneroid pressure  
hPa : -  
Rated speed rpm : 500  
Del. quantity  
cm<sup>3</sup>/1000 strokes : 127.0  
Tolerance  
cm<sup>3</sup>/1000 strokes : ± 1.0  
Check tolerance  
cm<sup>3</sup>/1000S. : ± 4.0  
Spreed  
Tolerance  
cm<sup>3</sup>/1000 strokes : 8.0  
Check tolerance  
cm<sup>3</sup>/1000S. : 12.0

---

BREAKAWAY

Rack travel in mm : 12.00  
Rated speed rpm : 1095  
Tolerance 1/min : ± 5

---

STARTING FUEL DELIVERY

Rated speed rpm : 100  
Del. quantity  
cm<sup>3</sup>/1000 strokes : 210.0  
Tolerance  
cm<sup>3</sup>/1000 strokes : ± 15.0  
Check tolerance  
cm<sup>3</sup>/1000S. : ± 19.0

---

LOW IDLE

Rated speed rpm : 300  
rack travel mm : 5.80  
Tolerance mm : ± 0.30  
Del. quantity  
cm<sup>3</sup>/1000 strokes : 19.0  
Tolerance  
cm<sup>3</sup>/1000 strokes : ± 3.0  
Check tolerance  
cm<sup>3</sup>/1000S. : ± 6.0  
Spreed  
Tolerance  
cm<sup>3</sup>/1000 strokes : 6.0  
Check tolerance  
cm<sup>3</sup>/1000S. : 10.0

BOSCH INJ. PUMP TEST SPECIFICATIONS

Note remarks

Refer to Service Info for test and adjustment instructions.  
See microcard(s) W400/...

Edition : 19.01.95  
Test oil : ISO 4113  
Combination No. : 0402646764  
Injection pump  
Pump designation : PE6P120A320LS7837-2  
EP type number : 0412626943  
Governor  
Governor design. : RQ300/1050PA972-13  
Governor no. : 0421801767  
Cust. part No. : 0260742402

---

Customer-spec. information  
Customer : MB-NFZ  
Motor : OM441 LA  
Power KW : 250.0

---

TEST BENCH REQUIREMENTS

Test oil inlet  
temp. °C : 40  
Tolerance °C : +- 2.0  
Overflow valve : 1417413047  
Inlet press. bar : 1.5  
Tolerance bar : +- 0.1  
Test nozzle holder  
assembly : 1688901105  
Opening pressure  
bar : 208.5  
Tolerance bar : +- 1.5  
Lube oil : 1409918004  
Test lines : 1680750075

N08

Outside diameter : 8.0  
x inside diameter : 3.0  
x length mm : 1000

---

REMARKS

(A) INJECTION PUMP SETTING VALUES  
Set equal delivery quant.  
per values \_\_\_\_\_

---

BEGINNING OF DELIVERY

Test pressure bar : 31.0  
Tolerance bar : +- 1.0  
Prestroke mm : 5.25  
Tolerance mm : +- 0.05  
test only : +- 0.10  
Rack travel in mm : 20.50  
Tolerance mm : +- 0.50  
Firing order : 6- 3- 5- 2- 4-  
: 1-  
Phasing : 0-60-120-180-240  
: -300-360  
Tolerance : +- 0.30  
Check  
tolerance °NW : +- 0.75

---

BEGINNING OF DELIVERY DIFFERENCE

Time to cyl. no. : 6

---

BASIC SETTING

Rated speed rpm : 550  
Rack travel in mm : 15.10  
Tolerance mm : +- 0.05

---

Del. quantity  
cm<sup>3</sup>/1000 strokes : 252.0

---

Tolerance  
cm<sup>3</sup>/1000 strokes : ± 1.0

---

Check tolerance  
cm<sup>3</sup>/1000S. : ± 4.0

---

Spreed  
Tolerance  
cm<sup>3</sup>/1000 strokes : 5.0

---

Check tolerance  
cm<sup>3</sup>/1000S. : 9.0

---

2nd speed rpm : 300

---

Rack travel in mm : 6.20  
Tolerance mm : ± 0.30

Del. quantity  
cm<sup>3</sup>/1000 strokes : 19.0  
Tolerance  
cm<sup>3</sup>/1000 strokes : ± 3.0  
Check tolerance  
cm<sup>3</sup>/1000S. : ± 6.0

Spreed  
Tolerance  
cm<sup>3</sup>/1000 strokes : 6.0  
Check tolerance  
cm<sup>3</sup>/1000S. : 10.0

(B) SETTING OF INJECTION PUMP  
WITH GOVERNOR

GUIDE SLEEVE TRAVEL

Rated speed rpm : 300  
guide sleeve  
travel mm : 1.94  
Tolerance mm : ± 0.10

Rated speed rpm : 1104  
guide sleeve  
travel mm : 6.34  
Tolerance mm : ± 0.10

Rated speed rpm : 1050  
guide sleeve  
travel mm : 6.00  
Tolerance mm : ± 0.10

Rated speed rpm : 441  
guide sleeve  
travel mm : 4.85  
Tolerance mm : ± 0.10

Rated speed rpm : 570

guide sleeve  
travel mm : 6.00  
Tolerance mm : ± 0.10

Rated speed rpm : 1280  
guide sleeve  
travel mm : 11.50  
Tolerance mm : ± 0.50

GUIDE SLEEVE POSITION

Rated speed rpm : 600

Rack travel in mm : 20.00  
Tolerance mm : ± 0.80

FULL LOAD DELIVERY AT FULL LOAD STOP

Rated speed rpm : 550  
Aneroid pressure  
hPa : 1100

Del. quantity  
cm<sup>3</sup>/1000 strokes : 252.0  
Tolerance  
cm<sup>3</sup>/1000 strokes : ± 1.0  
Check tolerance  
cm<sup>3</sup>/1000S. : ± 4.0

Spreed  
Tolerance  
cm<sup>3</sup>/1000 strokes : 5.0  
Check tolerance  
cm<sup>3</sup>/1000S. : 9.0

RATED SPEED

control lever  
position degree : 100.0  
tolerance degree : ± 4.0

rack travel mm : 14.10  
Rated speed rpm : 1098  
Tolerance 1/min : ± 8

rack travel mm : 4.00  
Rated speed rpm : 1200  
Tolerance 1/min : ± 15

rack travel mm : 0.75  
Tolerance mm : ± 0.75  
Rated speed rpm : 1300

LOW IDLE



control lever  
position degree : 74.0  
tolerance degree : ± 4.0

Testing:

Rated speed rpm : 300  
rack travel mm : 5.50  
Tolerance mm : ± 0.10

rack travel mm : 2.00  
Rated speed rpm : 400  
Tolerance 1/min : ± 20

Rated speed rpm : 200

CRT mm min. : > 8.50

---

TORQUE CONTROL

Rated speed rpm : 550  
rack travel mm : 15.10  
Tolerance mm : ± 0.05

Rated speed rpm : 1050  
rack travel mm : 15.10  
Tolerance mm : ± 0.10

---

ANEROID/ALTITUDE  
COMPENSATOR TEST

SETTING

Rated speed rpm : 400  
Pressure hPa : 1100  
rack travel mm : 15.10  
Tolerance mm : ± 0.05

MEASUREMENT

Pressure hPa : -  
Rated speed rpm : 400  
rack travel mm : 9.15  
Tolerance mm : ± 0.20

Rated speed rpm : 400

Pressure hPa : 150  
rack travel mm : 10.05  
Tolerance mm : ± 0.20

Pressure hPa : 550  
rack travel mm : 13.85  
Tolerance mm : ± 0.20

---

START CUT-OUT

Rated speed rpm : > 100  
Check  
speed 1/min : > 80  
Rated speed rpm : < 220  
Check  
speed 1/min : < 240

---

FUEL DELIVERY CHARACTERISTICS

Aneroid pressure  
hPa : 1100  
Rated speed rpm : 1050  
Del. quantity  
cm<sup>3</sup>/1000 strokes : 240.0  
Tolerance  
cm<sup>3</sup>/1000 strokes : ± 3.0  
Check tolerance  
cm<sup>3</sup>/1000S. : ± 6.0  
Spreed  
Tolerance  
cm<sup>3</sup>/1000 strokes : 8.0  
Check tolerance  
cm<sup>3</sup>/1000S. : 12.0

Aneroid pressure  
hPa : -  
Rated speed rpm : 500  
Del. quantity  
cm<sup>3</sup>/1000 strokes : 135.0  
Tolerance  
cm<sup>3</sup>/1000 strokes : ± 1.0  
Check tolerance  
cm<sup>3</sup>/1000S. : ± 4.0  
Spreed  
Tolerance  
cm<sup>3</sup>/1000 strokes : 8.0  
Check tolerance  
cm<sup>3</sup>/1000S. : 12.0

---

BREAKAWAY

Rack travel in mm : 14.10  
Rated speed rpm : 1098  
Tolerance 1/min : ± 8

---

STARTING FUEL DELIVERY

Rated speed rpm : 100  
Del. quantity  
cm<sup>3</sup>/1000 strokes : 235.0

Tolerance  
cm<sup>3</sup>/1000 strokes : ± 20.0  
Check tolerance  
cm<sup>3</sup>/1000S. : ± 24.0

---

LOW IDLE

Rated speed rpm : 300  
rack travel mm : 6.20  
Tolerance mm : ± 0.30  
Del. quantity  
cm<sup>3</sup>/1000 strokes : 19.0  
Tolerance  
cm<sup>3</sup>/1000 strokes : ± 3.0  
Check tolerance  
cm<sup>3</sup>/1000S. : ± 6.0  
Spreed  
Tolerance  
cm<sup>3</sup>/1000 strokes : 6.0  
Check tolerance  
cm<sup>3</sup>/1000S. : 10.0

BOSCH INJ. PUMP TEST SPECIFICATIONS

Note remarks

Refer to Service Info for test and adjustment instructions.  
See microcard(s) W400/...

Edition : 19.01.95  
Test oil : ISO 4113

Combination No. : 0402646765

Injection pump  
Pump designation : PE6P120A320LS7837  
: -10

EP type number : 0412626855

Governor  
Governor design. : RGV300...1050PA797  
: -43

Governor no. : 0421814134

Cust. part No. : 0260742502

Customer-spec. information

Customer : MB-NFZ  
Motor : OM441 LA  
Power Kw : 250.0

TEST BENCH REQUIREMENTS

Test oil inlet  
temp. °C : 40  
Tolerance °C : + 2.0

Overflow valve : 1417413047

Inlet press. bar : 1.5  
Tolerance bar : + 0.1

Overflow quantity  
min. l/h : 110  
Tolerance l/h : + 10.0

Test nozzle holder  
assembly : 1688901105

Opening pressure  
bar : 208.5  
Tolerance bar : + 1.5

N12

Lube oil : 1409918004

Test lines : 1680750075

Outside diameter : 8.0

x inside diameter : 3.0  
x length mm : 1000

REMARKS

(A) INJECTION PUMP SETTING VALUES  
Set equal delivery quant.  
per values \_\_\_\_\_

BEGINNING OF DELIVERY

Test pressure bar : 31.0  
Tolerance bar : + 1.0

Prestroke mm : 5.25  
Tolerance mm : + 0.05

test only : + 0.10

Rack travel in mm : 20.50  
Tolerance mm : + 0.50

Firing order : 6- 3- 5- 2- 4-  
: 1-

Phasing : 0-60-120-180-240  
: -300-360  
Tolerance : + 0.30  
Check  
tolerance °NW : + 0.75

BEGINNING OF DELIVERY DIFFERENCE

Time to cyl. no. : 6

BASIC SETTING

Rated speed rpm : 550

---

Rack travel in mm : 15.10  
Tolerance mm :  $\pm$  0.05

---

Del. quantity  
cm<sup>3</sup>/1000 strokes : 252.0

---

Tolerance  
cm<sup>3</sup>/1000 strokes :  $\pm$  1.0

---

Check tolerance  
cm<sup>3</sup>/1000S. :  $\pm$  4.0

---

Spread  
Tolerance  
cm<sup>3</sup>/1000 strokes : 5.0

---

Check tolerance  
cm<sup>3</sup>/1000S. : 9.0

---

2nd speed rpm : 300

Rack travel in mm : 6.20  
Tolerance mm :  $\pm$  0.30

Del. quantity  
cm<sup>3</sup>/1000 strokes : 19.0

Tolerance  
cm<sup>3</sup>/1000 strokes :  $\pm$  3.0

Check tolerance  
cm<sup>3</sup>/1000S. :  $\pm$  6.0

Spread  
Tolerance  
cm<sup>3</sup>/1000 strokes : 6.0

Check tolerance  
cm<sup>3</sup>/1000S. : 10.0

(B) SETTING OF INJECTION PUMP  
WITH GOVERNOR

---

GUIDE SLEEVE TRAVEL

Rated speed rpm : 300  
guide sleeve  
travel mm : 1.29  
Tolerance mm :  $\pm$  0.20

Rated speed rpm : 1108  
guide sleeve  
travel mm : 8.54  
Tolerance mm :  $\pm$  0.15

Rated speed rpm : 558  
guide sleeve  
travel mm : 4.53  
Tolerance mm :  $\pm$  0.25

Rated speed rpm : 608

guide sleeve  
travel mm : 5.03  
Tolerance mm :  $\pm$  0.25

Rated speed rpm : 820  
guide sleeve  
travel mm : 6.13  
Tolerance mm :  $\pm$  0.25

Rated speed rpm : 1183  
guide sleeve  
travel mm : 10.00  
Tolerance mm :  $\pm$  0.25

Rated speed rpm : 1280  
guide sleeve  
travel mm : 11.50  
Tolerance mm :  $\pm$  0.50

---

GUIDE SLEEVE POSITION

control lever  
position degree : - 1  
Rated speed rpm : 1140

Rack travel in mm : 14.10  
Tolerance mm :  $\pm$  1.30

---

FULL LOAD DELIVERY AT FULL LOAD STOP

Rated speed rpm : 550  
Aneroid pressure  
hPa : 1100  
Del. quantity  
cm<sup>3</sup>/1000 strokes : 252.0  
Tolerance  
cm<sup>3</sup>/1000 strokes :  $\pm$  1.0  
Check tolerance  
cm<sup>3</sup>/1000S. :  $\pm$  4.0  
Spread  
Tolerance  
cm<sup>3</sup>/1000 strokes : 5.0  
Check tolerance  
cm<sup>3</sup>/1000S. : 9.0

---

RATED SPEED

control lever  
position degree : 122.0  
tolerance degree :  $\pm$  4.0

rack travel mm : 14.10  
Rated speed rpm : 1095  
Tolerance 1/min :  $\pm$  5

rack travel mm : 4.00  
Rated speed rpm : 1190  
Tolerance 1/min : ± 15  
  
rack travel mm : 0.75  
Tolerance mm : ± 0.75  
Rated speed rpm : 1300

---

#### LOW IDLE

control lever  
position degree : 85.0  
tolerance degree : ± 4.0

#### Testing:

Rated speed rpm : 300  
rack travel mm : 5.50  
Tolerance mm : ± 0.10

Rated speed rpm : 200

CRT mm min. : > 8.60

---

#### CONTINUOUS-ACTION CONTROL

Rated speed rpm : 350

---

#### TORQUE CONTROL

Rated speed rpm : 550  
rack travel mm : 15.10  
Tolerance mm : ± 0.05

Rated speed rpm : 1050  
rack travel mm : 15.10  
Tolerance mm : ± 0.10

---

#### ANEROID/ALTITUDE COMPENSATOR TEST

#### SETTING

Rated speed rpm : 400  
Pressure hPa : 1100  
rack travel mm : 15.10  
Tolerance mm : ± 0.05

#### MEASUREMENT

Pressure hPa : -  
Rated speed rpm : 400  
rack travel mm : 9.15  
Tolerance mm : ± 0.20

Rated speed rpm : 400  
  
Pressure hPa : 150  
rack travel mm : 10.05  
Tolerance mm : ± 0.20  
  
Pressure hPa : 550  
rack travel mm : 13.85  
Tolerance mm : ± 0.20

---

#### START CUT-OUT

Rated speed rpm : > 100  
Check  
speed 1/min : > 80  
Rated speed rpm : < 220  
Check  
speed 1/min : < 240

---

#### FUEL DELIVERY CHARACTERISTICS

Aneroid pressure  
hPa : 1100  
Rated speed rpm : 1050  
Del. quantity  
cm<sup>3</sup>/1000 strokes : 240.0  
Tolerance  
cm<sup>3</sup>/1000 strokes : ± 3.0  
Check tolerance  
cm<sup>3</sup>/1000S. : ± 6.0  
Spreed  
Tolerance  
cm<sup>3</sup>/1000 strokes : 8.0  
Check tolerance  
cm<sup>3</sup>/1000S. : 12.0

Aneroid pressure  
hPa : -  
Rated speed rpm : 500  
Del. quantity  
cm<sup>3</sup>/1000 strokes : 135.0  
Tolerance  
cm<sup>3</sup>/1000 strokes : ± 1.0  
Check tolerance  
cm<sup>3</sup>/1000S. : ± 4.0  
Spreed  
Tolerance  
cm<sup>3</sup>/1000 strokes : 8.0  
Check tolerance  
cm<sup>3</sup>/1000S. : 12.0

---

#### BREAKAWAY

Rack travel in mm : 14.10  
Rated speed rpm : 1095

Tolerance 1/min : +- 5

---

STARTING FUEL DELIVERY

Rated speed rpm : 100  
Del. quantity  
cm<sup>3</sup>/1000 strokes : 235.0  
Tolerance  
cm<sup>3</sup>/1000 strokes : +- 20.0  
Check tolerance  
cm<sup>3</sup>/1000S. : +- 24.0

---

LOW IDLE

Rated speed rpm : 300  
rack travel mm : 6.20  
Tolerance mm : +- 0.30  
Del. quantity  
cm<sup>3</sup>/1000 strokes : 19.0  
Tolerance  
cm<sup>3</sup>/1000 strokes : +- 3.0  
Check tolerance  
cm<sup>3</sup>/1000S. : +- 6.0  
Speed  
Tolerance  
cm<sup>3</sup>/1000 strokes : 6.0  
Check tolerance  
cm<sup>3</sup>/1000S. : 10.0

BOSCH INJ. PUMP TEST SPECIFICATIONS

Note remarks

Refer to Service Info for test and adjustment instructions.  
See microcard(s) W400/...

Edition : 19.01.95  
Test oil : ISO 4113

Combination No. : 0402646766

Injection pump  
Pump designation : PE6P120A320LS7837  
: -10  
EP type number : 0412626855

Governor  
Governor design. : RQ300/950PA993-11  
Governor no. : 0421801766

Cust. part No. : 0260742302

Customer-spec. information

Customer : MB-NFZ  
Motor : OM441 LA  
Power KW : 250.0

TEST BENCH REQUIREMENTS

Test oil inlet  
temp. °C : 40  
Tolerance °C : +- 2.0

Overflow valve : 1417413047

Inlet press. bar : 1.5  
Tolerance bar : +- 0.1

Overflow quantity  
min. l/h : 110  
Tolerance l/h : +- 10.0

Test nozzle holde  
assembly : 1688901105

Opening pressure  
bar : 208.5  
Tolerance bar : +- 1.5

Lube oil : 1409918004

Test lines : 1680750075

Outside diameter : 8.0

x inside diameter : 3.0  
x length mm : 1000

REMARKS

(A) INJECTION PUMP SETTING VALUES  
Set equal delivery quant.  
per values \_\_\_\_\_

BEGINNING OF DELIVERY

Test pressure bar : 31.0  
Tolerance bar : +- 1.0

Prestroke mm : 5.25  
Tolerance mm : +- 0.05

test only : +- 0.10

Rack travel in mm : 20.50  
Tolerance mm : +- 0.50

Firing order : 6- 3- 5- 2- 4-  
: 1-

Phasing : 0-60-120-180-240  
: -300-360  
Tolerance : +- 0.30  
Check  
tolerance °NW : +- 0.75

BEGINNING OF DELIVERY DIFFERENCE

Time to cyl. no. : 6

BASIC SETTING

Rated speed rpm : 550

Rack travel in mm : 15.10  
Tolerance mm : ± 0.05

---

Del. quantity  
cm<sup>3</sup>/1000 strokes : 252.0

---

Tolerance  
cm<sup>3</sup>/1000 strokes : ± 1.0

---

Check tolerance  
cm<sup>3</sup>/1000S. : ± 4.0

---

Speed  
Tolerance  
cm<sup>3</sup>/1000 strokes : 5.0

---

Check tolerance  
cm<sup>3</sup>/1000S. : 9.0

2nd speed rpm : 300

Rack travel in mm : 6.20  
Tolerance mm : ± 0.30

Del. quantity  
cm<sup>3</sup>/1000 strokes : 19.0

Tolerance  
cm<sup>3</sup>/1000 strokes : ± 3.0

Check tolerance  
cm<sup>3</sup>/1000S. : ± 6.0

Speed  
Tolerance  
cm<sup>3</sup>/1000 strokes : 6.0

Check tolerance  
cm<sup>3</sup>/1000S. : 10.0

(B) SETTING OF INJECTION PUMP  
WITH GOVERNOR

---

GUIDE SLEEVE TRAVEL

Rated speed rpm : 300  
guide sleeve  
travel mm : 2.28  
Tolerance mm : ± 0.10

Rated speed rpm : 1005  
guide sleeve  
travel mm : 6.34  
Tolerance mm : ± 0.10

Rated speed rpm : 950  
guide sleeve  
travel mm : 6.00  
Tolerance mm : ± 0.10

Rated speed rpm : 340

guide sleeve  
travel mm : 3.46  
Tolerance mm : ± 0.10

Rated speed rpm : 580  
guide sleeve  
travel mm : 6.00  
Tolerance mm : ± 0.10

Rated speed rpm : 1190  
guide sleeve  
travel mm : 11.50  
Tolerance mm : ± 0.50

---

GUIDE SLEEVE POSITION

Rated speed rpm : 600

Rack travel in mm : 20.00  
Tolerance mm : ± 0.80

---

FULL LOAD DELIVERY AT FULL LOAD STOP

Rated speed rpm : 550  
Aneroid pressure  
hPa : 1100

Del. quantity  
cm<sup>3</sup>/1000 strokes : 252.0

Tolerance  
cm<sup>3</sup>/1000 strokes : ± 1.0

Check tolerance  
cm<sup>3</sup>/1000S. : ± 4.0

Speed  
Tolerance  
cm<sup>3</sup>/1000 strokes : 5.0

Check tolerance  
cm<sup>3</sup>/1000S. : 9.0

---

RATED SPEED

control lever  
position degree : 100.0  
tolerance degree : ± 4.0

rack travel mm : 14.10  
Rated speed rpm : 998  
Tolerance 1/min : ± 8

rack travel mm : 4.00  
Rated speed rpm : 1105  
Tolerance 1/min : ± 15

rack travel mm : 0.75  
Tolerance mm : ± 0.75  
Rated speed rpm : 1300



---

LOW IDLE

control lever  
position degree : 72.0  
tolerance degree : ± 4.0

Testing:

Rated speed rpm : 300  
rack travel mm : 3.50  
Tolerance mm : ± 0.10

rack travel mm : 2.00  
Rated speed rpm : 340  
Tolerance 1/min : ± 20

Rated speed rpm : 200

CRT mm min. : > 6.50

---

TORQUE CONTROL

Rated speed rpm : 550  
rack travel mm : 15.10  
Tolerance mm : ± 0.05

Rated speed rpm : 950  
rack travel mm : 15.10  
Tolerance mm : ± 0.10

---

ANEROID/ALTITUDE  
COMPENSATOR TEST

SETTING

Rated speed rpm : 400  
Pressure hPa : 1100  
rack travel mm : 15.10  
Tolerance mm : ± 0.05

MEASUREMENT

Pressure hPa : -  
Rated speed rpm : 400  
rack travel mm : 9.15  
Tolerance mm : ± 0.20

Rated speed rpm : 400

Pressure hPa : 150  
rack travel mm : 10.05  
Tolerance mm : ± 0.20

Pressure hPa : 550

rack travel mm : 13.85  
Tolerance mm : ± 0.20

---

START CUT-OUT

Rated speed rpm : > 100  
Check  
speed 1/min : > 80  
Rated speed rpm : < 220  
Check  
speed 1/min : < 240

---

FUEL DELIVERY CHARACTERISTICS

Aneroid pressure  
hPa : 1100  
Rated speed rpm : 950  
Del. quantity  
cm<sup>3</sup>/1000 strokes : 240.0  
Tolerance  
cm<sup>3</sup>/1000 strokes : ± 3.0  
Check tolerance  
cm<sup>3</sup>/1000S. : ± 6.0

Spread  
Tolerance  
cm<sup>3</sup>/1000 strokes : 8.0  
Check tolerance  
cm<sup>3</sup>/1000S. : 12.0

Aneroid pressure  
hPa : -  
Rated speed rpm : 500  
Del. quantity  
cm<sup>3</sup>/1000 strokes : 135.0  
Tolerance  
cm<sup>3</sup>/1000 strokes : ± 1.0  
Check tolerance  
cm<sup>3</sup>/1000S. : ± 4.0

---

BREAKAWAY

Rack travel in mm : 14.10  
Rated speed rpm : 998  
Tolerance 1/min : ± 8

---

STARTING FUEL DELIVERY

Rated speed rpm : 100  
Del. quantity  
cm<sup>3</sup>/1000 strokes : 235.0  
Tolerance  
cm<sup>3</sup>/1000 strokes : ± 20.0  
Check tolerance  
cm<sup>3</sup>/1000S. : ± 24.0

---

LOW IDLE

Rated speed rpm : 300  
rack travel mm : 6.20  
Tolerance mm :  $\pm$  0.30  
Del. quantity  
cm<sup>3</sup>/1000 strokes : 19.0  
Tolerance  
cm<sup>3</sup>/1000 strokes :  $\pm$  3.0  
Check tolerance  
cm<sup>3</sup>/1000S. :  $\pm$  6.0  
Spreed  
Tolerance  
cm<sup>3</sup>/1000 strokes : 6.0  
Check tolerance  
cm<sup>3</sup>/1000S. : 10.0

BOSCH INJ. PUMP TEST SPECIFICATIONS

Note remarks

Refer to Service Info for test and adjustment instructions.  
See microcard(s) W400/...

Edition : 19.01.95  
Test oil : ISO 4113

Combination No. : 0402646767

Injection pump  
Pump designation : PE6P120A32OLS7837  
: -10  
EP type number : 0412626855

Governor  
Governor design. : RQV300...950PA797  
: -42  
Governor no. : 0421814133

Cust. part No. : 0260741502

---

Customer-spec. information  
Customer : MB-NFZ  
Motor : OM441 LA  
Power kW : 250.0

---

TEST BENCH REQUIREMENTS

Test oil inlet  
temp. °C : 40  
Tolerance °C : ± 2.0

Overflow valve : 1417413047

Inlet press. bar : 1.5  
Tolerance bar : ± 0.1

Test nozzle holde  
assembly : 1688901105

Opening pressure  
bar : 208.5  
Tolerance bar : ± 1.5

Lube oil : 1409918004

Test lines : 1680750075

Outside diameter : 8.0

x inside diameter : 3.0  
x length mm : 1000

---

REMARKS

(A) INJECTION PUMP SETTING VALUES  
Set equal delivery quant.  
per values \_\_\_\_\_

---

BEGINNING OF DELIVERY

Test pressure bar : 31.0  
Tolerance bar : ± 1.0

Prestroke mm : 5.25  
Tolerance mm : ± 0.05

test only : ± 0.10

Rack travel in mm : 20.50  
Tolerance mm : ± 0.50

Firing order : 6- 3- 5- 2- 4-  
: 1-

Phasing : 0-60-120-180-240  
: -300-360  
Tolerance : ± 0.30  
Check  
tolerance °NW : ± 0.75

---

BEGINNING OF DELIVERY DIFFERENCE

Time to cyl. no. : 6

---

BASIC SETTING

Rated speed rpm : 550

---

Rack travel in mm : 15.10

Tolerance mm	: +- 0.05
<hr/>	
Del. quantity cm <sup>3</sup> /1000 strokes	: 252.0
<hr/>	
Tolerance cm <sup>3</sup> /1000 strokes	: +- 1.0
<hr/>	
Check tolerance cm <sup>3</sup> /1000S.	: +- 4.0
<hr/>	
Spread Tolerance cm <sup>3</sup> /1000 strokes	: 5.0
<hr/>	
Check tolerance cm <sup>3</sup> /1000S.	: 9.0
<hr/>	
2nd speed rpm	: 300
<hr/>	
Rack travel in mm	: 6.20
Tolerance mm	: +- 0.30
Del. quantity cm <sup>3</sup> /1000 strokes	: 19.0
Tolerance cm <sup>3</sup> /1000 strokes	: +- 3.0
Check tolerance cm <sup>3</sup> /1000S.	: +- 6.0
<hr/>	
Spread Tolerance cm <sup>3</sup> /1000 strokes	: 6.0
Check tolerance cm <sup>3</sup> /1000S.	: 10.0

(B) SETTING OF INJECTION PUMP  
WITH GOVERNOR

GUIDE SLEEVE TRAVEL

Rated speed rpm	: 300
guide sleeve travel mm	: 1.29
Tolerance mm	: +- 0.20
<hr/>	
Rated speed rpm	: 1009
guide sleeve travel mm	: 8.55
Tolerance mm	: +- 0.15
<hr/>	
Rated speed rpm	: 567
guide sleeve travel mm	: 4.66
Tolerance mm	: +- 0.25
<hr/>	
Rated speed rpm	: 617
guide sleeve travel mm	: 5.23
Tolerance mm	: +- 0.25

Rated speed rpm	: 780
guide sleeve travel mm	: 6.31
Tolerance mm	: +- 0.25
<hr/>	
Rated speed rpm	: 1092
guide sleeve travel mm	: 10.00
Tolerance mm	: +- 0.25
<hr/>	
Rated speed rpm	: 1190
guide sleeve travel mm	: 11.50
Tolerance mm	: +- 0.50

GUIDE SLEEVE POSITION

control lever position degree	: - 1
Rated speed rpm	: 1040
<hr/>	
Rack travel in mm	: 14.10
Tolerance mm	: +- 1.30

FULL LOAD DELIVERY AT FULL LOAD STOP

Rated speed rpm	: 550
Aneroid pressure hPa	: 1100
Del. quantity cm <sup>3</sup> /1000 strokes	: 252.0
Tolerance cm <sup>3</sup> /1000 strokes	: +- 1.0
Check tolerance cm <sup>3</sup> /1000S.	: +- 4.0
<hr/>	
Spread Tolerance cm <sup>3</sup> /1000 strokes	: 5.0
Check tolerance cm <sup>3</sup> /1000S.	: 9.0

RATED SPEED

control lever position degree	: 122.0
tolerance degree	: +- 4.0
<hr/>	
rack travel mm	: 14.10
Rated speed rpm	: 995
Tolerance 1/min	: +- 5
<hr/>	
rack travel mm	: 4.00
Rated speed rpm	: 1100
Tolerance 1/min	: +- 15

rack travel mm : 0.70  
Tolerance mm : + 0.70  
Rated speed rpm : 1200

---

#### LOW IDLE

control lever  
position degree : 85.0  
tolerance degree : + 4.0

#### Testing:

Rated speed rpm : 300  
rack travel mm : 5.50  
Tolerance mm : + 0.10

Rated speed rpm : 200  
CRT mm min. : > 8.50

---

#### CONTINUOUS-ACTION CONTROL

Rated speed rpm : 325

---

#### TORQUE CONTROL

Rated speed rpm : 550  
rack travel mm : 15.10  
Tolerance mm : + 0.05

Rated speed rpm : 950  
rack travel mm : 15.10  
Tolerance mm : + 0.10

---

#### ANEROID/ALTITUDE COMPENSATOR TEST

#### SETTING

Rated speed rpm : 400  
Pressure hPa : 1100  
rack travel mm : 15.10  
Tolerance mm : + 0.05

#### MEASUREMENT

Pressure hPa : -  
Rated speed rpm : 400  
rack travel mm : 9.15  
Tolerance mm : + 0.20

Rated speed rpm : 400

Pressure hPa : 150  
rack travel mm : 10.05  
Tolerance mm : + 0.20

Pressure hPa : 550  
rack travel mm : 13.85  
Tolerance mm : + 0.20

---

#### START CUT-OUT

Rated speed rpm : > 100  
Check  
speed 1/min : > 80  
Rated speed rpm : < 220  
Check  
speed 1/min : < 240

---

#### FUEL DELIVERY CHARACTERISTICS

Aneroid pressure  
hPa : 1100  
Rated speed rpm : 950  
Del. quantity  
cm<sup>3</sup>/1000 strokes : 240.0  
Tolerance  
cm<sup>3</sup>/1000 strokes : + 3.0  
Check tolerance  
cm<sup>3</sup>/1000S. : + 6.0  
Spreed  
Tolerance  
cm<sup>3</sup>/1000 strokes : 8.0  
Check tolerance  
cm<sup>3</sup>/1000S. : 12.0

Aneroid pressure  
hPa : -  
Rated speed rpm : 500  
Del. quantity  
cm<sup>3</sup>/1000 strokes : 135.0  
Tolerance  
cm<sup>3</sup>/1000 strokes : + 1.0  
Check tolerance  
cm<sup>3</sup>/1000S. : + 4.0  
Spreed  
Tolerance  
cm<sup>3</sup>/1000 strokes : 8.0  
Check tolerance  
cm<sup>3</sup>/1000S. : 12.0

---

#### BREAKAWAY

Rack travel in mm : 14.10  
Rated speed rpm : 995  
Tolerance 1/min : + 5

---

STARTING FUEL DELIVERY

Rated speed rpm : 100  
Del. quantity  
cm<sup>3</sup>/1000 strokes : 255.0  
Tolerance  
cm<sup>3</sup>/1000 strokes : ± 20.0  
Check tolerance  
cm<sup>3</sup>/1000S. : ± 24.0

---

LOW IDLE

Rated speed rpm : 300  
rack travel mm : 6.20  
Tolerance mm : ± 0.30  
Del. quantity  
cm<sup>3</sup>/1000 strokes : 19.0  
Tolerance  
cm<sup>3</sup>/1000 strokes : ± 3.0  
Check tolerance  
cm<sup>3</sup>/1000S. : ± 6.0  
Spreed  
Tolerance  
cm<sup>3</sup>/1000 strokes : 6.0  
Check tolerance  
cm<sup>3</sup>/1000S. : 10.0

BOSCH INJ. PUMP TEST SPECIFICATIONS

Note remarks

Refer to Service Info for test and adjustment instructions.  
See microcard(s) W400/...

Edition : 17.11.94  
Test oil : ISO 4113  
Combination No. : 0402646880  
Injection pump  
Pump designation : PE6P120A720RS7126  
: -10  
EP type number : 0412626929  
Governor  
Governor design. : RQV200...1050PA725  
: -5  
Governor no. : 0421813814  
Cust. part No. : 1120969

Customer-spec. information  
Customer : SCANIA  
Motor : DS 11

TEST BENCH REQUIREMENTS

Test oil inlet  
temp. °C : 40  
Tolerance °C : ± 2.0  
Overflow valve : 1417413025  
Inlet press. bar : 1.5  
Tolerance bar : ± 0.1  
Test nozzle holde  
assembly : 1688901019  
Opening pressure  
bar : 208.5  
Tolerance bar : ± 1.5  
Test lines : 1680750015  
Outside diameter : 6.0

x inside diameter : 3.0  
x length mm : 600

REMARKS

Check and set without ROBO diaphragam

(A) INJECTION PUMP SETTING VALUES  
Set equal delivery quant.  
per values \_\_\_\_\_

BEGINNING OF DELIVERY

Test pressure bar : 31.0  
Tolerance bar : ± 1.0  
Prestroke mm : 5.05  
Tolerance mm : ± 0.05  
test only : ± 0.10  
Rack travel in mm : 10.50  
Tolerance mm : ± 1.50  
Firing order : 1- 5- 3- 6- 2-  
: 4  
Phasing : 0-60-120-180-240  
: -300  
Tolerance : ± 0.30  
Check  
tolerance °NW : ± 0.75

BEGINNING OF DELIVERY DIFFERENCE

Time to cyl. no. : 1

BASIC SETTING

Rated speed rpm : 700  
Rack travel in mm : 14.15  
Tolerance mm : ± 0.05

Del. quantity  
cm<sup>3</sup>/1000 strokes : 235.0

---

Tolerance  
cm<sup>3</sup>/1000 strokes : ± 1.0

---

Check tolerance  
cm<sup>3</sup>/1000S. : ± 4.0

---

Spreed  
Tolerance  
cm<sup>3</sup>/1000 strokes : 6.0

---

Check tolerance  
cm<sup>3</sup>/1000S. : 9.0

2nd speed rpm : 225

Rack travel in mm : 4.60  
Tolerance mm : ± 0.30

Del. quantity  
cm<sup>3</sup>/1000 strokes : 17.0  
Tolerance  
cm<sup>3</sup>/1000 strokes : ± 2.0  
Check tolerance  
cm<sup>3</sup>/1000S. : ± 4.0

Spreed  
Tolerance  
cm<sup>3</sup>/1000 strokes : 3.0  
Check tolerance  
cm<sup>3</sup>/1000S. : 6.0

(B) SETTING OF INJECTION PUMP  
WITH GOVERNOR

GUIDE SLEEVE POSITION

control lever  
position degree : - 1  
Rated speed rpm : 1200

Rack travel in mm : 10.50  
Tolerance mm : ± 2.50

FULL LOAD DELIVERY AT FULL LOAD STOP

Rated speed rpm : 700  
Aneroid pressure  
hPa : 900

Del. quantity  
cm<sup>3</sup>/1000 strokes : 235.0  
Tolerance  
cm<sup>3</sup>/1000 strokes : ± 1.0  
Check tolerance  
cm<sup>3</sup>/1000S. : ± 4.0

N25

Spreed  
Tolerance  
cm<sup>3</sup>/1000 strokes : 6.0  
Check tolerance  
cm<sup>3</sup>/1000S. : 9.0

RATED SPEED

control lever  
position degree : 62.0  
tolerance degree : ± 4.0

control lever  
position degree : 117.0  
tolerance degree : ± 4.0

rack travel mm : 13.10  
Rated speed rpm : 1095  
Tolerance 1/min : ± 5

rack travel mm : 4.00  
Rated speed rpm : 1215  
Tolerance 1/min : ± 15

rack travel mm : 0.50  
Tolerance mm : ± 0.50  
Rated speed rpm : 1320

LOW IDLE

control lever  
position degree : 64.0  
tolerance degree : ± 4.0

control lever  
position degree : 10.0  
tolerance degree : ± 4.0

Testing:

Rated speed rpm : 225  
rack travel mm : 4.60  
Tolerance mm : ± 0.30

Rated speed rpm : 100  
CRT mm min. : > 6.10

CONTINUOUS-ACTION CONTROL

Rated speed rpm : 300

TORQUE CONTROL



Rated speed rpm : 700  
rack travel mm : 14.15  
Tolerance mm : ± 0.05

Rated speed rpm : 1050  
rack travel mm : 14.15  
Tolerance mm : ± 0.05

---

ANEROID/ALTITUDE  
COMPENSATOR TEST

SETTING

Rated speed rpm : 500  
Pressure hPa : 900  
rack travel mm : 14.15  
Tolerance mm : ± 0.05

MEASUREMENT

Pressure hPa : -  
Rated speed rpm : 500  
rack travel mm : 10.70  
Tolerance mm : ± 0.20

Rated speed rpm : 500

Pressure hPa : 510  
rack travel mm : 13.05  
Tolerance mm : ± 0.05

Pressure hPa : 250  
rack travel mm : 11.20  
Tolerance mm : ± 0.20

---

FUEL DELIVERY CHARACTERISTICS

Aneroid pressure  
hPa : 900  
Rated speed rpm : 1050  
Del. quantity  
cm<sup>3</sup>/1000 strokes : 226.0  
Tolerance  
cm<sup>3</sup>/1000 strokes : ± 4.0  
Check tolerance  
cm<sup>3</sup>/1000S. : ± 6.0

Aneroid pressure  
hPa : -  
Rated speed rpm : 500  
Del. quantity  
cm<sup>3</sup>/1000 strokes : 152.0  
Tolerance  
cm<sup>3</sup>/1000 strokes : ± 2.0  
Check tolerance  
cm<sup>3</sup>/1000S. : ± 4.0

---

BREAKAWAY

Rack travel in mm : 13.10  
Rated speed rpm : 1095  
Tolerance 1/min : ± 5

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STARTING FUEL DELIVERY

Rated speed rpm : 100  
rack travel mm : 20.50  
Tolerance mm : ± 0.50  
Del. quantity  
cm<sup>3</sup>/1000 strokes : 300.0  
Tolerance  
cm<sup>3</sup>/1000 strokes : ± 20.0  
Check tolerance  
cm<sup>3</sup>/1000S. : ± 24.0

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LOW IDLE

Rated speed rpm : 225  
rack travel mm : 4.60  
Tolerance mm : ± 0.30  
Del. quantity  
cm<sup>3</sup>/1000 strokes : 17.0  
Tolerance  
cm<sup>3</sup>/1000 strokes : ± 2.0  
Check tolerance  
cm<sup>3</sup>/1000S. : ± 4.0  
Speed  
Tolerance  
cm<sup>3</sup>/1000 strokes : 3.0  
Check tolerance  
cm<sup>3</sup>/1000S. : 6.0